

# A Bibliography of Publications in *Communications of the ACM*: 1980–1989

Nelson H. F. Beebe  
University of Utah  
Department of Mathematics, 110 LCB  
155 S 1400 E RM 233  
Salt Lake City, UT 84112-0090  
USA

Tel: +1 801 581 5254

FAX: +1 801 581 4148

E-mail: [beebe@math.utah.edu](mailto:beebe@math.utah.edu), [beebe@acm.org](mailto:beebe@acm.org),  
[beebe@computer.org](mailto:beebe@computer.org) (Internet)

WWW URL: <https://www.math.utah.edu/~beebe/>

20 October 2023

Version 2.59

## Title word cross-reference

**21st** [Scu89]. **246** [Boo64]. **25th** [SR85]. **29** [RHC87]. **299** [HP67].

**30** [Ell60]. **32** [GS87b]. **334** [Bel68]. **360** [SG84b]. **370** [SG84b]. **395** [Hil70a]. **396** [Hil70b].

$2^n$  [AC83]. **8** [Wic82].  $\chi^2$  [LCJ86].  $F$  [LCJ86].  $k$  [FT83].  $M/M/s$  [Cla81].  $O(1)$  [Bro88].  $O(n)$  [Dei80].  $P^2$  [JC85].  $t$  [Hil70a, Hil70b, Hil81a, Hil81b, LCJ86, eL79].

**408** [McN71].

**60** [Iro61, Iro83].

**78** [RS80].

**80a** [Dei80]. **80s** [NCD82]. **87** [van88]. **87e** [RHC87].

**1** [Jal84, Pet83]. **16** [GS87b]. **1980** [Eck80]. **1980s** [WAB+88]. **1981** [BBB+81]. **1984** [Bro84a, CCZD84, Cla84, Knu84a, NB84, Neu84]. **1986** [Fre87a]. **1990's** [SW89].

**=** [Sol86].

**abbreviation** [BW84]. **above** [MG86].  
**Abstract** [BG84, BG87, CG88, Rot81].  
**Abstraction**  
 [BGN86, Gar88, Isn82, Abb87, LWS87].  
**Abstraction-based** [BGN86]. **abuse**  
 [IHS86]. **Academic**  
 [GMRY86, Tho86, Pre89b]. **accelerating**  
 [TT82]. **Acceptability** [Öre81]. **Access**  
 [CGM83, Dal84, Gre82, Hay84, LK84, Öre81,  
 PS83, VR82, JM89]. **Accesses**  
 [Che82, LS82b, Luk83, WWS83].  
**accessibility** [Lad89]. **Accessing** [Hay86].  
**Accommodate** [Moz82]. **Accommodating**  
 [Gid84, NHSS87]. **Accreditation**  
 [MD84, BM87, BM87]. **Accuracy**  
 [KC73, Sal88, KC83]. **ACL** [Wil83b]. **ACM**  
 [Ano80b, Dei80, RHC87, Sta86, Alt87,  
 Ano80c, Ash86a, Ash86b, Ash86c, Ash86d,  
 Ash86e, Ash86f, Ash86g, Ash86i, Ash86j,  
 Ash86k, Ash89, Bel68, BSE<sup>+</sup>90, Boo64,  
 Coc87, D'A84, Den88, DBFJ86, Ell60, Fec87,  
 Fox88, HP67, Hil70a, Hil70b, KSW85,  
 LSS86, MAB<sup>+</sup>81, McN71, Min81, Min85,  
 MD84, NK88, NK89, NHSS87, Pel88, Rev87,  
 SR84, Ske82, WWSD90, Ash86h].  
**ACM/IEEE** [MD84]. **Acquire** [Maz80].  
**Act** [SSK<sup>+</sup>86]. **activities** [BM87]. **Ada**  
 [LS82c, Raj85, CDV<sup>+</sup>86, GKB86, Ich84,  
 LS82c, NB84, NS87a, NS87b, Sam86, Ske82,  
 WW84, Weg81, Wic84]. **Adaptability**  
 [Wil84]. **adaptable** [KS89]. **Adapting**  
 [JAV86]. **Adaptive**  
 [Abr89, BSTW86, OA85, RHC87]. **additive**  
 [Pri81a, Pri81b]. **Address** [van88].  
**Addresses** [Cha81]. **adequacy** [Wey88].  
**Adjacency** [LL87a]. **adjusted** [HL81].  
**Administration** [Gil82, Kah83]. **Advance**  
 [CCZD84]. **Advanced** [Ash81, PW86].  
**advice** [CM87]. **advice-giving** [CM87].  
**Affecting** [VW83]. **after** [KI84].  
**Aftermath** [Spa89]. **Against**  
 [Dav81, MM84, Gru89]. **Age**  
 [Ano84a, Fox88, RME84, Cra87]. **Aha**  
 [Ben83a]. **Aid** [EM82, TWBK89]. **Aided**  
 [LLK82]. **algebra** [Nas85]. **ALGLIB**  
 [SW85]. **ALGOL** [Iro61, Iro83, MK80].  
**Algol-W** [MK80]. **Algorithm**  
 [Bel68, Ben84a, Ben84d, Boo64, BM77,  
 Dwy81b, Ear70, Ear83, Ell60, Er85, Fin84,  
 Fle80, Fra82, Gal81, Gau82, Gus78, HKM80,  
 HP67, Hil70a, Hil70b, Hil81a, Hil81b, HP85,  
 JC85, KJ84, Lee80, LW86, Mar82, McC82,  
 McN71, Mis75, Nov85, Pea82, RA81, Sip77,  
 Sun90, Tar87, Tay83, Til84, Tra82, ZS84,  
 eL76, eL79, CN82, DZ89, Dei80, Ger88,  
 GS87b, HSCP87, KJ85, Kwo88, LL83, LB83,  
 LB84b, LB84a, Luo89, O'R81, Pee83, PW80,  
 PW81, RSS88, Pap85]. **Algorithmic**  
 [Mae80]. **Algorithms**  
 [Ano80a, Ben83a, CM82, CI84, CK80,  
 GH89a, GH89b, Hal89b, Hal89a, Has84,  
 HS87, KR81, Kor82, LS84, LS82a, LR82b,  
 LR82a, NP82, Smi81, Wai84, BFP82, CS80b,  
 CLC82, Ebe87, GT83, Gor88, HS86a, Man88,  
 MS81a, Mer85, OS85, SCL87, Wai85]. **Allan**  
 [Fre87c]. **allocating** [BK89]. **Allocation**  
 [Bec82, SH85, VVG85, YM86]. **allowing**  
 [WM92]. **Alpha** [Pea82]. **Alpha-Beta**  
 [Pea82]. **Alternative** [DGST88].  
**alternatives** [LSS86]. **Ambler** [Eck80].  
**Amdahl** [Gus88]. **American**  
 [BBB<sup>+</sup>81, Bur83, Dal84, NK89]. **Among**  
 [Bar83]. **Amortized** [BM84, BM85a, ST85].  
**AN/FSQ7** [Bel83a]. **Analogy** [Win80].  
**Analyses** [BM84, Nor83, BM85a, Kan89].  
**Analysis** [Bar83, BL80, BC84, CF83,  
 Den81a, HC84, Lin80, MJ89, MS81a, Med84,  
 Oli83, PL80, She87, SV87, Suz82, VD83,  
 WW84, BS81, BM85b, FB81, LB83, LB84b,  
 LB84a, MT88, ON85, RS86, RPL89, San89a,  
 SA81, YBCR88, ZSEG82]. **analyst** [BG86].  
**Analyzing** [JL82, Tay83]. **Anatomy**  
 [SK88]. **Andrew** [MSC<sup>+</sup>86]. **Andries**  
 [Ano84a]. **anniversary** [SR85].  
**annotations** [PC89]. **Announcing**  
 [Den87a]. **annual** [FM86, FMB88, FB89].  
**Anomalies** [LS84]. **Answers** [Wic84].  
**Anthony** [Eck80]. **Antithetic** [FH83].

**Anxiety** [Pap85, Guy88, HS86b]. **APL** [Bil81, Bil82]. **Application** [Gui83, Jon88, LS81, Mar84, MMP84, SDP84, TTH<sup>+</sup>84, GG85b, Gui85, Man85, SDP87]. **Applications** [BB81, DGST88, Nej88, PB80, Bas85, Fin85, FB81, MD89, RSS88, YSB<sup>+</sup>89]. **Approach** [Ala84, Bic87, GHJ<sup>+</sup>81, HM84, Hil88, KD80, Lam89, Lic83, Mae80, MK80, San89b, Yen89, AS87, BYG92, DDM86, GT83, RRHD88, TK89, Zav84]. **Approaches** [Mow81]. **approximate** [Cla81]. **approximately** [San84]. **Approximation** [BFP82, LR82a, Sam85]. **April** [Bro84a, CCZD84, Cla84, Knu84a, NB84, Neu84]. **Arabic** [Bec87]. **architect** [Mil85]. **architectural** [TDP89]. **Architecture** [Car84, Den81b, Den85, HSS89, MKNS87, SG84b, WC84, AS87, GS87a, SDP87]. **Architectures** [SDP84, Fri85, Wir86]. **Archival** [Pec82]. **Area** [AA80, Bro83]. **Area-Time** [AA80]. **Argus** [Lis88]. **ARIADNE** [LWS87]. **Arithmetic** [WNC87, LL87b]. **Arrays** [Ben85b]. **Art** [Fre88b, Knu73]. **Artificial** [Mar84, BH89, McC87a]. **Arts** [GT86]. **Aspects** [Led86, Mad84, Par85]. **Assessing** [Ber84]. **Assessment** [Ala84, Gou82, Gup84, HS80a, KK84, Ste85a, Ste82, Weg81, Wei82b, Wei83a, WC84, Bic89, DLA85, Lan86, Mun88, SB86, Ste85b, Web88, Wei87b, DLA85]. **assignment** [NMF87]. **assist** [ON85]. **Assistant** [Cha82]. **Assisted** [CS80a, Coh82]. **Associative** [Ben85b]. **Assurance** [GK82]. **Astrophysics** [Arn84, Arn85]. **Asymptotic** [LLTvdL82]. **asymptotically** [Koo86]. **Asynchronous** [CM81]. **Athena** [BLP85]. **ATN** [Kai81]. **Attitudes** [INW83, Mor83c]. **Attributes** [EDF84, EDF87]. **audio** [YSB<sup>+</sup>89]. **Audit** [Han83, KvE84]. **Auditing** [HM84]. **Auditor** [LR81]. **Auditors** [Wil83b]. **Authentication** [Boo81, GJ82, Lam81]. **Author** [Pec83a]. **Authoring** [Kea82, MB89a]. **Authors** [Ste86a, Ste86b, Ste86c, Ste86d, Ste86e, Ste86f, Ste86g, Ste86h, Ste86i, Ste86j, Ste86k, Ste86l, Sta86]. **Automated** [SDP84, AS86, FB81, SDP87]. **Automatic** [Bic87, Kai81, MG89, NB84, PZ84, BCDM89, Sal86]. **automating** [Fre85b]. **Automation** [Ber86, OL82, Rob86]. **Averaging** [CF83]. **Avionics** [Car84]. **AVL** [LP80]. **Avoid** [HT85]. **avoidance** [JM89]. **Award** [Coc88, Gre88, Fre87a, Pel88]. **Axiomatic** [Hoa69, Hoa83a]. **Axis** [Sam83].

**B** [DF84, Gup84]. **B-trees** [DF84, Gup84]. **B.** [Ste83]. **Back** [Ben84j, Ben86a, HH87]. **back-pointers** [HH87]. **backup** [KNT88]. **bad** [RS89]. **Balance** [CI84]. **Balanced** [ZSEG82]. **Balancing** [Gon83]. **banking** [GS85]. **Banks** [Cod70, Cod83]. **Banned** [DSK84]. **Base** [Kai81, TDP89]. **Based** [Bec82, CW89, FK85a, Has84, Kea82, LR82a, LH83, MD82, Nor83, TKM<sup>+</sup>89, Wai84, WK88, ACHS88, BGN86, BD81, DP87, Fil88, Fri85, HR85b, Isn82, JD88, SW86a, SS80, Wai85, WK89, Wey88, Wir86]. **Basic** [JY89, YL89, BM83]. **Basis** [Hoa69, Hoa83a]. **Batch** [BHK<sup>+</sup>80]. **Be** [DSK84, Sam89b, BL89, Sam89a]. **Been** [Min81, Min82, Min85]. **Before** [Dix89]. **Beginning** [BM83]. **Behavior** [Dav88, HT81, LLTvdL82, BW84, Bro80, DP87]. **behavioral** [GBL<sup>+</sup>87]. **Behaviour** [Den68, Den83]. **Benchmark** [Wei84, FW86, SD86]. **Benchmarks** [Pre88, CDV<sup>+</sup>86]. **benefit** [MT88]. **Bentley** [RHC87]. **Berkeley** [Den88]. **Berry** [HC86]. **Berry-Meekings** [HC86]. **Best** [CK80, Den81a, ES89]. **Beta** [Pea82]. **Better** [Lic83]. **Between** [Fle80, Scu89, Tur84, Wei83b, GMRY86, O'R81, SD86, SK87, Wei66]. **Beyond** [Dun81, Mil81, Pet81, SFB<sup>+</sup>87, BOBS89]. **bias** [Sch81]. **Big** [Wic84, Cha85, Fre87c]. **Binary** [CI84, Epp83, Gil80, Gon83, Gup84,

Lee80, Ger88]. **Binomial** [KS88]. **Birth** [Ben86b]. **Bit** [Wic82, Hay86]. **Block** [Che82, Luk83, WWS83]. **Bloom** [Gre82, Mul83, Ram89]. **Blue** [Fre87c]. **board** [BM87]. **Boolean** [Fin84, KLPV87, SFW83]. **Bound** [LS84, ZSEG82]. **Boundary** [DRS80, Sam80a]. **Bounded** [Lee80]. **bowl** [Fre89a]. **Boxer** [dSA86]. **Branch** [LS84]. **Branch-and-Bound** [LS84]. **Branching** [Pea82]. **Brand** [Hec88]. **Brélaz** [Pee83]. **Bresenham** [PW81, PW80]. **Brian** [Fre87d]. **bridge** [SG86]. **Brief** [Bel83c]. **Brilliance** [BF87]. **British** [SSK+86]. **brother** [Cha85]. **Brown** [Pee83]. **Bucket** [QCH+81]. **Buffer** [Boz84]. **Buffers** [IR88]. **Building** [Gal81, GWWJ84, BBLP86, RKM88]. **Built** [Gau81]. **Built-In** [Gau81]. **Bumper** [Ben85c]. **Bumper-Sticker** [Ben85c]. **Business** [Scu89, FM86, FMB88, FB89]. **by-product** [RS86].

**C** [Den88, Thi89, BM85b]. **cache** [BD81]. **cache-based** [BD81]. **Caching** [JM89]. **Calculation** [JC85]. **calculations** [LCJ86]. **Calculator** [MB81]. **Calendar** [Bro88]. **California** [Rau85]. **Can** [BL89, Ear89, Sam89b]. **capacity** [Lam88, NMF87]. **Careers** [Gei84, GB88]. **Carlo** [Bel83c, BF83, Lau84, Lau85b]. **cartography** [FB81]. **Cartoons** [MR84b]. **Case** [Dav81, GS87a, SG84b, Gru89, NN89]. **Category** [OB88, Ral81]. **Category-Partition** [OB88]. **Cauchy** [AD88]. **Causal** [Bar83]. **Caused** [Sam89b]. **CD** [Pre89a]. **CD-ROM** [Pre89a]. **Cedar** [GNS88]. **Cellular** [LR82a]. **Central** [EDF84, EDF87]. **Century** [Neu84, Scu89]. **Certain** [Kun88]. **Certification** [Lee81, Tur85]. **Chain** [San84, Dei80]. **chalkboard** [SFB+87]. **challenge** [Gib89]. **Challenges** [Sle86, Lev89]. **championship** [NK89, NK88]. **Change** [Kee81, LS82a]. **changing** [Ols83]. **Chaos** [Pic88a, Pic88b]. **Chaostron** [CCZD84]. **Characterizing** [Smi88]. **Charging** [KV83]. **Charts** [Mae80]. **Checker** [Ben85a]. **Checklist** [Gau81]. **Checkpoint** [KSL84]. **checks** [Sar88]. **Chess** [NK88, NK89]. **Chi** [HP67, HP85, eL76]. **Chi-Squared** [HP67, HP85, eL76]. **Chin** [Dei80]. **China** [D'A84, WAB+88]. **Chinese** [ACHL88]. **Chinese-English** [ACHL88]. **Chips** [Dix89]. **Choices** [Goo82]. **Choosing** [Lib89]. **Christopher** [Den87a]. **Chromatic** [Bro72]. **Church** [Eck80]. **Cichelli** [BF83, Cic80b, JO80]. **Circle** [BBB+81]. **Circular** [Fra82, HS80b]. **CIRRUS** [GS85]. **Class** [Kun88, Wai84, Wai85]. **Classification** [LLK82, Ral81, SR82]. **Clipper** [HSS89]. **clipping** [LB83, LB84b, LB84a]. **CLOG** [NB84]. **Closed** [Fle80, WWS83]. **Clothes** [Hoa81]. **Clustering** [Bel70, Bel83b, TWBK89]. **Coalesced** [Vit82]. **COBOL** [Jal84, Jal87, Eva82, TY80]. **Cocke** [Pel88]. **Code** [Bel70, Bel83b, Ben84e, Mau83, MF82, DZ89, MP85, Ste89b, TDP89, Wir86]. **code-decode** [MP85]. **Coder** [Ben85d]. **codes** [DRS80, MS81b, Sam80a]. **Coding** [LB89, WNC87]. **Cognitive** [SBE83, Che88b]. **collaboration** [SFB+87]. **Colleagues** [PSvE+89]. **collecting** [Cou88]. **Collection** [Dav84a, HC84, Led86, ACHS88]. **Collector** [LH83]. **colleges** [BAC85]. **Colliding** [GMRY86]. **Color** [BBK82, Bré79, BDT86]. **color-enhanced** [BDT86]. **Colored** [SDP84, SDP87]. **Coloring** [KJ84, KJ85, Pee83, RSS88]. **colouring** [Kor70]. **Column** [Ben84b]. **Combination** [LS82a]. **Combinatorial** [LLK82]. **Combinatorially** [Kor82]. **Combinatorics** [Kar86]. **combined** [L'E88, Sez89]. **Comes** [Ano84a]. **Coming** [Fuj84, Fox89]. **Comm** [Ano80b, Dei80, RHC87, Sta86]. **Command** [BW84, LGH83, Wat82]. **Comment**

[Eas82, Hou82, LW86, LP80, Man82, Sta86]. **Commentaries** [Wei87a]. **Comments** [Dij89a, Fed81, Hou80, KMP86, PSvE<sup>+</sup>89, RHC87, Tam84]. **Commission** [GL83a, EGH<sup>+</sup>89, Lee81]. **Committee** [MAB<sup>+</sup>81, Min81, MG85, Min85, DBFJ86, Ral81]. **committees** [DT87]. **Common** [VHG87, BKM86]. **Communicating** [Hoa78b, Hoa78a, Hoa83b]. **Communication** [HT85, Hil88, Lam81, Wei66, Wei83b, FLGD87, TWBK89]. **communications** [Mun88, Ano80c]. **Compact** [HWNC88, SK88]. **Compaction** [KvE84, Mar82]. **Comparative** [DW83]. **Comparing** [Pec83b, NMF87]. **Comparison** [Dav88, MD82, QCH<sup>+</sup>81, RAV83, YBCR88, Jon86, San89a, Wir86]. **Comparisons** [Jal84]. **compensate** [SLL<sup>+</sup>88]. **Competitive** [IL84]. **compilation** [Coh85, RS86]. **Compiler** [Iro61, Iro83, PWH86, Man85, Wir86]. **Compilers** [TvSKS83, WW84]. **Compiling** [Whe09]. **complex** [Cou85]. **Complexity** [AV88, BP84, Bro82, Co083, Fre86b, Knu84a, LLK82, Nej88, BI87, Fre86c, Fre86a, Kar86, KST<sup>+</sup>86, Knu84b, MB89b]. **Composing** [GCH83, Smi85]. **Comprehensibility** [MMNS83]. **Compress** [HWNC88]. **Compressed** [Mae80]. **Compression** [Abr89, BSTW86, Jon88, Pec82, Pec83a, Sch83b, Cor85, FG89, MP85, RHC87, Sam85, Tin89, WNC87]. **Computation** [CCFJ84, CM82, DGST88, PV81, Sar88, SH82, Wol84b, Wol85, CCFJ85, Dei80, ED85, KMP86, Lev89, OS85]. **Computational** [Arn84, Arn85, CS80b, Co083, MM83, dSA86]. **Computations** [CM81, DvH66, DV83]. **Computer** [Ano84a, BDM81, Ben85c, BBK82, Bor87, CHH88, CM84, CS80a, Coh82, Com83, CK86, DSK84, Den81b, Den85, Dij89b, EM82, Fed81, FFC82, GT86, GS84b, Goo82, Gra84, GMRY86, GKW85, HT85, Hil88, Hoa69, Hoa83a, Hop87, HS86b, Jac83, JY89, KNT88, Kan89, Kea82, KV83, Knu73, KWS83, KD80, Kus84, Lad89, LLK82, LY89, Lib89, LR81, MAB<sup>+</sup>81, Man82, MBD<sup>+</sup>85, MR84b, McC87b, MB76, MB83, Min81, Min82, Min85, Min89, Moz82, MD84, NK88, Pap85, PB80, Pet80, QH86, RS80, Ral84, RDH<sup>+</sup>80, RA81, Rob81, RME84, Sam82, Sam89b, ST83, Sha84, Shn82b, Sle86, SG84a, Tra81, TTH<sup>+</sup>84, Tur84, Tur85, Web88, Wei66, Wei83b, WAB<sup>+</sup>88, WC84, YRS<sup>+</sup>83, YL89, Yoc89, AS87, AI88, AS86, BW84, Ber87, BM85d, CN85, Con85, Den81a]. **computer** [DDM86, ES89, FM86, FMB88, FB89, Fre85a, Fre89a, Fre89b, GG85b, Hop86, Lam88, Lan86, MOR<sup>+</sup>88, Men85, NMF87, NK89, NBL<sup>+</sup>88, PTN88, Rob86, RSS88, Smi88, Spe82, SG86, SFB<sup>+</sup>87, TAB<sup>+</sup>85, Wir85, Bel83a, BM87, Van87]. **Computer-Aided** [LLK82]. **Computer-assisted** [Coh82]. **Computer-Mediated** [HT85, Hil88]. **Computerization** [KDK89]. **Computerized** [HT81, IHS86, Sal88]. **Computers** [DSB84, DPNW84, Fre86c, Fre88a, HH88, Mor83c, WOS83, Bel89, Ear89, JM89, Pat85, RW87, TDP89]. **Computing** [AEH<sup>+</sup>89, AR84, BLP85, BAC85, BW89, Den80, DM85, Den86, DCG<sup>+</sup>89, Fec87, FFGL88, Fle80, FG88, Fre87b, Ken80, Led86, LR82b, LR82a, MSC<sup>+</sup>86, Mow81, NS84, Pre89b, RF83, SR84, SDP84, SDP87, SH82, Ste85a, VVG85, Wei83a, Wol84a, BLNS82, BM87, CN82, Den89, DLA85, Fre87c, Fre87d, Fre87e, HMM88, Lem85, Men87, NHSS87, Ree87, RH88, SJ89, Ste85b, Wei82b, Ral81, SR82, SR85]. **Concepts** [Gut85, Öre81]. **Conceptual** [She87, SA81]. **Concerning** [Pri84]. **Concurrent** [Dij65, Dij83a, Jon89, Lam89, San89b, Tay83]. **conditional** [VW86]. **Conference** [Ash84, Dav84b, Gin83, HT81, Pre89a, Dav86, Fre85a, Pre89b]. **Confessions** [Ben85d]. **confidence** [HW81].

**configuration** [BOBS89]. **Configurations** [Fra82, HS80b]. **Conflicts** [Goo82]. **Congress** [DSB84]. **Congressional** [DPNW84]. **congruent** [DBB84]. **Connected** [PV81]. **connection** [MDV86, SK86]. **Connectionist** [FFGL88, Gal88]. **Connectivity** [Hal89b, Hal89a]. **Conquer** [Ben80]. **consensus** [FB81]. **Considerations** [Han83, Lin80]. **Considered** [McC89]. **consistency** [Gru89]. **Conspectus** [Hou84]. **constant** [Asa80]. **construct** [Sol86]. **Construction** [CY80, Wir85]. **Constructive** [Til84, GT83]. **Constructs** [SBE83, Rob86]. **consumption** [AI88]. **Contemporary** [How82]. **Contention** [DDB81, RT86]. **Context** [Ear70, Ear83, Gis81, CG89, KS86]. **Context-Free** [Ear70, Ear83]. **Context-Sensitive** [Gis81]. **Contingency** [Hil88]. **contour** [Kwo88]. **contracts** [EGL85]. **Contribution** [Cla84]. **Contributors** [Ano80b]. **Control** [Dij65, Dij83a, GGW80, Goo82, KI84, Kru81, Par83a, Sch81, Shn82a, Wat82, Gro86, HW81]. **controller** [San85]. **Controlling** [Bro82]. **Controls** [LR81]. **conventional** [Zav84]. **conversation** [DF89]. **Conversing** [Bla84b]. **Conversion** [LR82a, Mae80, SC80]. **convex** [BFP82, DBB84]. **convolution** [LL83]. **Coons** [Gre88]. **Cooperation** [Ste83]. **Coordinated** [And84, Bem83]. **cope** [Ear89]. **Coping** [Ano84b]. **Copying** [Lee80]. **Copyright** [YL89, Sam89a]. **Corequisite** [Ral84]. **Cornell** [EGH<sup>+</sup>89, TR81]. **corporation** [Fre85a]. **Correct** [Ben83d, FW86, SS86b]. **Correcting** [MF82, Pet80]. **Correction** [Ano80b, Bic87, Dei80, Dun81, Mil81, Pet81, RS81, DLS83, Pee83, PZ84]. **Correspondence** [BL80, Cic80b, Den80, JO80, Ken80, MK80, PPC<sup>+</sup>89, Ano86a, Ano86b, Ano86c, Ano86d, Ano86e, Ano86f].

**Corrigenda** [GH89a, Hal89b, HHH<sup>+</sup>87, Kem87a, NS87a]. **Corrigendum** [Bil82, Heh84a, Hoa78b, Knu84b, LB84b, LB84a, PW81, Pri81a, Ste85a]. **cosmic** [Sei85]. **Cost** [Kem87a, MT88, BS81, ED85, KMP86, Kan89, Kem87b]. **cost-risk** [BS81]. **Cost/benefit** [MT88]. **Costs** [Fle80]. **Council** [BBB<sup>+</sup>81]. **Countering** [Whe09]. **Course** [Ral84, BM85d]. **CP** [Pec83b]. **CP/M** [Pec83b]. **CPU** [ED85, KMP86]. **Cracking** [Ben83b, See89]. **CRAY** [Pet83]. **CRAY-1** [Pet83]. **CRC** [GS87b]. **CRC-16** [GS87b]. **CRC-32** [GS87b]. **Crime** [DPNW84]. **Criminal** [Gem89, Lau85a]. **Crisis** [DFG<sup>+</sup>81, Spa89, YRS<sup>+</sup>83, BH89]. **Criteria** [KSL84, Ore81, RW85, Wey88]. **Critics** [Wic84]. **Critique** [BDDG84, DW83, O'D82]. **crossed** [Den87b]. **Cruelty** [Dij89b]. **Cruncher** [Ben86b]. **Cryptographic** [GJ82]. **Cryptography** [BBB<sup>+</sup>81, Dav81, DB81]. **Cryptosystems** [Den84, RSA78, RSA83]. **CS** [Ano80b, Tho86]. **CS1** [KMW84]. **CS2** [KSW85]. **CSNET** [Com83]. **Cube** [PV81, CK89, Sei85]. **Cube-Connected** [PV81]. **cumulative** [DDM86]. **Current** [CS80a]. **Curricula** [McC87b]. **Curriculum** [GT86, KMW84, MAB<sup>+</sup>81, NCD82, Ber87, KSW85, Tur85, RS80]. **Curves** [Bal81]. **Cutting** [Ben86c]. **Cycle** [WK88, Fre85b, WK89]. **Cycles** [PV81]. **cyclic** [Sar88].

**D** [RHC87]. **Dam** [Ano84a]. **Damages** [Sam89b]. **DARPA** [Ste85a, Ste85b]. **DASD** [Bar80]. **Data** [Abr89, BH84, BC84, Ben83c, BG84, BSTW86, Ben87b, Bla84a, Bur83, CGM83, Cod70, Cod83, Cor85, FG89, Fre88b, Gil82, HS86a, HS87, Isn82, JK83, Jon84, Jon88, Kah83, Kes83, Lau86, Lin80, Mad84, MP85, OS85, Pec82, Ros81, Sam85, SI86, Shn82a, Ste82, TKM<sup>+</sup>89, Vui80, YS83, ALN87, BK89,

BI87, BG87, Ebe87, GT83, Mun88, O'R81, RHC87, US88, Wey88, WNC87, YSB<sup>+</sup>89]. **Data-Document** [Bla84a]. **Data-flow** [OS85]. **Database** [Cod82, Fox88, Hin84, KvE84, Ken83, LS82b, Luk83, PL80, Smi85, Sto81, Sto88b, WOS83, WWS83, Wil84, BPR88, Cor85, Gil87, RRHD88, TWBK89, TK89]. **Dataflow** [Bic82, GW85]. **dataveillance** [Cla88]. **DC** [BBB<sup>+</sup>81]. **Dealing** [Gou82, Gup84, HS80a, Weg81, Wei83a, WC84, DLA85, Lan86, SB86, Wei82b]. **Debatable** [BSE<sup>+</sup>90, WWSD90]. **debate** [Den89]. **DEBL** [CW89]. **Debugging** [Bel83c, CW89, Gau82, Gla80, Wei82a]. **Decade** [Tra81]. **Decentralized** [Fra82, HS80b]. **decimal** [WP89]. **Decision** [HM84, Lew82, Mae80, Med84, SC80, Sri83, AG85, DDM86, JD88]. **decode** [MP85]. **decomposition** [Cou85]. **Decrease** [Wil84]. **default** [KNT88]. **Defense** [Abr88, Par85, Lie86]. **Defined** [LCWB80]. **Definition** [Par83a, DZ89]. **Degree** [GT86]. **Delayed** [Sil83]. **Delayed-Staging** [Sil83]. **Deletion** [Epp83, Sam80b]. **Delivered** [Eck80]. **delocalized** [SLL<sup>+</sup>88]. **Dempster** [Yen89]. **Dempster-Shafer** [Yen89]. **Department** [Luc84, SS86a, Lie86]. **Dependency** [Abr89, Smi85]. **Derivability** [Oli83]. **derived** [GWWJ84]. **Describing** [Ben87b, Coh85, MB81]. **description** [Lim82]. **Descriptions** [Abb83]. **Descriptor** [PBC80]. **Design** [BC84, Ben84a, Ben84d, Ben86d, Dem81, FR84, Gid84, Gom84, Jac83, KD80, Lin80, MR84a, MB89b, Mey82, Nas85, Nor83, RAV83, San89b, SS80, Tar87, Abb83, AS87, AG85, BBLP86, BPR88, CM87, Con85, CKI88, Gil87, GT83, GG85b, GBL<sup>+</sup>87, KK88, Lan86, Man88, Man85, Mor83a, NMF87, Raj85, RPL89, RKM88, San89a, Smi85, SG86, TWBK89, Wir85]. **Designer** [DW83, Ich84, Wic84, RKM88]. **designers** [GL85]. **Designing** [GL85, Gre82, MW83, NS87a, NS87b, Shn82b, SLL<sup>+</sup>88]. **Designs** [Wil84]. **Destruction** [Gau81]. **Detecting** [MF82, Pet80, WP89]. **Detection** [LL87a, Til84]. **Determinants** [Gre84]. **determination** [MG89, YBCR88]. **determining** [Dei80]. **Developing** [WK88, WK89]. **Development** [Ala84, How82, MR84a, MMP84, Smi81, TTH<sup>+</sup>84, WK88, Wir71, Wir83, AHM89, BGN86, Coh88, Fre85b, Gom86, Gui85, HK89, Lau85a, SK87, SK88, WK89, Zav84]. **Developments** [KI84, Wil83a]. **deviate** [Hou82]. **Deviates** [Bel68, Tra82]. **DHRYSTONE** [Wei84]. **Diagnosing** [Yen89]. **Diagnosis** [BM83]. **diagram** [Smi85, Rob82]. **Dialogue** [MBD<sup>+</sup>85]. **Dialogues** [Rob82]. **Dictionary** [Dod82, Nix81, DK87, Dol88, RT88]. **diff** [Thi89]. **Difference** [Thi89, VL89]. **Differences** [HH88, MB81]. **Differential** [Gre82]. **Digital** [Cha81, Den84, Dix89, LW86, Rip89, RSA78, RSA83, YS83, ZS84, Fox89, BOBS89]. **digits** [WP89]. **Dijkstra** [PSvE<sup>+</sup>89]. **Dilema** [DPNW84]. **Dimensional** [ZT89, Sam80b]. **dining** [Rin88]. **Directed** [Fle80, Iro61, Iro83, LWS87, TR81]. **direction** [Tho86]. **disabilities** [Lad89]. **disaster** [KNT88]. **Discipline** [DFG<sup>+</sup>81, GWY89, Hop87, DCG<sup>+</sup>89, JK87]. **disciplined** [BL89]. **Discovering** [FK85b]. **discrete** [BRRH85, BHP81, MS81a, ON85]. **Discussed** [HWNC88]. **Disk** [Fuj84, Hof80, IR88, JM89]. **Disks** [PS83, YSB<sup>+</sup>89]. **Disordered** [KS84, KS85]. **Display** [Whi80, US88]. **Displaying** [LCWB80]. **Dissections** [Kun88]. **Distfix** [Pey86]. **Distinction** [Bla84a]. **Distributed** [AMY88, Bur83, CM81, CM82, CW89, Han83, Kle85, Lis88, Lub89, MB76, MB83, MSC<sup>+</sup>86, SH82, BBLP86, BLNS82, Che88a, OSS80, Pec81]. **Distribution** [DS81a, DG87, Hil70a, Hil81a, LS82b, eL79, FT83, LCJ86]. **distributions** [AD88, Cla81]. **Diverse** [Whe09]. **Divide** [Ben80].

**Divide-and-Conquer** [Ben80]. **Division** [AC83, Sam82, Mañ87]. **DNA** [FK85b]. **Document** [Ben86d, Bla84a, BM85c, Gor88, GL83b]. **Document-Retrieval** [BM85c]. **Documentation** [GHJ<sup>+</sup>81, GL83b, Shn82a, SLL<sup>+</sup>88, TWBK89]. **documents** [WB85]. **doing** [CA88]. **domestication** [Bir85]. **Donald** [Fre87e, Thi89]. **Donating** [DSB84]. **Don't** [AR84]. **Double** [Whe09]. **Double-Compiling** [Whe09]. **Down** [LS82c]. **DP** [Bar83]. **Driven** [Lub89, AS87]. **DSS** [AG85, RW85]. **duality** [Gil87]. **due** [Lau86]. **Dupont** [BBB<sup>+</sup>81]. **DVI** [Rip89, Tin89]. **Dyamic** [Mad84]. **Dynamic** [Bec82, JC85, Lar88, VR82, YM86, PKT83]. **Dynamics** [AHM83, AHM89].

**Early** [SH82, Wei83a, Kow88]. **earth** [Rau85]. **earthquakes** [Rau85]. **EAS** [MMP84]. **EAS-E** [MMP84]. **ease** [NBGL89]. **Easing** [Com80]. **Eavesdropper** [RS84]. **Ecological** [SC88]. **Economics** [MW83]. **Economies** [Men87]. **edge** [Ebe87]. **edge-oriented** [Ebe87]. **Editing** [LGH83, MD89]. **Editor** [Fra80, Gut85, Dun81, Mil81, Pet81]. **Editorial** [Den86]. **Editors** [RM83]. **Edmund** [Den88]. **EDP** [HM84]. **Education** [BBB<sup>+</sup>81, Kea82, MBD<sup>+</sup>85, Scu89, BLP85, Gib89, WAB<sup>+</sup>88, GL83a]. **Educational** [GL83a, Num81]. **Effect** [Man81, BI87]. **Effective** [Gar82, VD83]. **Effectiveness** [BM85c, DDM86]. **effects** [Men85]. **Efficiency** [ST85]. **Efficient** [AD88, CI84, CLC82, DBB84, Ear70, Ear83, KR81, L'E88, LH85, Lub89, Mar82, Nix81, SC80, YSB<sup>+</sup>89, GS87b, MG89, PKT83, Sez89]. **efficiently** [Spe82]. **Eighteenth** [NK88]. **elections** [Fre88a]. **Electronic** [Abr84, Cha81, Den82, Fox88, MYB87, MKNS87, McC89, Zak83, BBLP86, DG87, Wel82]. **elements** [SCL87]. **Eliminating** [Bel70, Bel83b]. **ELIZA** [Wei66, Wei83b].

**Elliott** [Lin86]. **Embedded** [Jon84, KS86]. **Emergence** [Hop87]. **Emperor** [Hoa81]. **Empirical** [BP84, BDDG84, Epp83, Kem87a, RM83, SBE83, VW83, BOI86, CK86, Jon86, Kem87b, Lam88, VW86]. **Employment** [GS82]. **Emulation** [Lew82]. **Emulator** [CFH<sup>+</sup>80]. **Enchère** [BBLP86]. **encrypted** [ALN87]. **Encryption** [Boo81, MH81]. **End** [RF83, CK89, HMM88, RH88]. **End-User** [RF83, RH88]. **Energy** [Lau84, Med84, Lau85b]. **Engineering** [DM85, Eva82, Gei84, Bel89, NN89]. **engineers** [Gib89]. **English** [RT88, Abb83, ACHL88, Eas82, WAC84]. **enhanced** [BDT86]. **Enhancement** [Hil88, BK89]. **enough** [LH86]. **enterprise** [MG86]. **Entity** [San89b, San89a]. **Entity-Life** [San89b, San89a]. **Entry** [JK83]. **Enumeration** [KJ84, KJ85]. **Envelope** [Ben84j, Ben86a]. **Environment** [Eis83, Eva82, Hin84, MSC<sup>+</sup>86, TR81, BG86, Fil88, JAV86]. **Environmental** [Lau85a]. **Environments** [How82, NHSS87]. **Episodic** [TKM<sup>+</sup>89]. **Equation** [Ell60, Nov85]. **equidistribution** [Koo86]. **Equivalence** [Kun88]. **Erlang** [Kel85]. **Error** [Bro83, Nor83, WP89, DS81b, Efe87]. **error-message** [Efe87]. **Errors** [BP84, MF82, Pet80, Pet86, WM92]. **estimates** [HL81]. **Estimating** [Che82, Luk83, Mor82, PS83, WWS83]. **Estimation** [Hor83, Kem87a, Kem87b]. **estimators** [DS81b]. **Ethernet** [MB76, MB83, SH80]. **Ethics** [Ash84, Wei82b]. **Eulogy** [Eck80]. **Evaluating** [Fre86d, AI88]. **Evaluation** [And84, BM85c, CFH<sup>+</sup>80, CAB<sup>+</sup>81, Fin84, KD80, RM83, Smi81, MB89a, Pre88, US88, Wey88]. **Even** [BH84]. **Event** [Bro88, Lub89, Sch83a, BHP81, Jon86, MS81a, ON85]. **Event-Driven** [Lub89]. **event-set** [Jon86]. **Evidence** [BDDG84]. **Evolution** [Den86, HT81, KK84]. **exact**



[OA85]. **exact-fit** [OA85]. **exactly** [San84]. **examine** [SCL87]. **example** [NMF87, San85]. **Examples** [Par83b, Par72]. **Excellence** [GL83a]. **Excerpts** [MK85]. **Exchange** [MKNS87]. **Exclusion** [RA81]. **EXEC** [Wic82]. **Execution** [Nej88, BCDM89, FH89]. **Executive** [Wic82]. **exercise** [BLNS82, MBA87]. **Exhaustive** [Gal81]. **Expanding** [VHC88]. **Expenditures** [Gui83]. **Experience** [GK82, Kru81, LR80, Nix81, SH82, BLP85]. **Experiment** [Pat81, Man85, OSS80]. **Experimental** [BDM81, CCFJ84, CCFJ85, Den81a, MJ89, MTY88, RAV83, VD83, BDT86, DDM86, SC87, US88]. **experimentally** [Bro80]. **Experimentation** [Jar88]. **Experiments** [Shn82a, SV87, DS81b]. **Expert** [BOBS89, BMS86, Gal88, CM87, CM88, DP87, RRHD88, SH85]. **Explaining** [HH88, DP87]. **explanations** [Sol86, Wil83a]. **Exploration** [VD83]. **exponential** [AD88, Kel85]. **exponential-Erlang** [Kel85]. **Export** [GGW80, Goo82]. **Expose** [RS84]. **Expressions** [VHC88]. **Extended** [Fin85, SFW83]. **Extension** [Kai81]. **External** [Dav88, LR81]. **Extrema** [Fra82, HS80b]. **Extrema-Finding** [HS80b].

**F** [Dei80]. **F4** [Gus78, HKM80, Sip77]. **Facility** [Ash81, TY80]. **Factor** [Pea82]. **Factors** [BBK82, RH88, VW83, MT88, Mor83a, SK87]. **Factory** [Ber86]. **Fair** [KL88]. **Family** [LR82a]. **Fast** [BM77, Bro88, Hal89b, Hal89a, KMP77, LW86, Sun90, VR82, WM92, ZS84]. **Faster** [Vit84]. **fastest** [AJ88]. **Fault** [Com80]. **FCFS** [Hof80]. **February** [BBB<sup>+</sup>81]. **federal** [Lad89, Lee81]. **Feedback** [FT83]. **feel** [Sam89a]. **Fence** [Gau82]. **Fetzer** [PPC<sup>+</sup>89]. **Fibonacci** [DGST88]. **Field** [Bel83a, BL89, CKI88]. **fields** [Hay86]. **Fifteen** [Alt87]. **Fifth** [FB89, McC83, Sha83, Dav84b]. **Figures** [NP82, Col85, DBB84]. **File** [Che82, Dwy81a, Gau81, GNS88, Gre82, Ing81, IR88, Jon84, LK84, Lev82, MD82, Pec82, PS83, Pec83a, Sch83b, Smi81, Thi89, VL89, GP86, SB86]. **Files** [PBC80, Sus63, Sus83]. **Filter** [Bro84b, Gre82]. **Filters** [Mul83, Ram89]. **Final** [SR82]. **Find** [PM88]. **Finding** [Fra82, HS80b, Luo89, Pri81a, Pri81b]. **findings** [BDT86]. **Finite** [Bla89, FG89]. **firm** [DT87]. **Firms** [DSB84]. **First** [Bel83a, Neu84, Ral84, TTH<sup>+</sup>84, BM87, Rev87]. **first-year** [BM87]. **fit** [OA85]. **fitting** [FB81, O'R81]. **Five** [And84, Ken83]. **Flight** [MR84a]. **Floating** [KC73, KC83]. **Floor** [Gal81]. **Floppy** [PS83]. **Flow** [Den76, Shn82a, Ahi87, OS85]. **Flowcharts** [Lew82, RAV83]. **Fly** [HC84, Kes83]. **focused** [Ber87]. **Folk** [Har80, SS86b]. **font** [GL84]. **Footnote** [NB84]. **force** [KSW85, MD84]. **Foreign** [Wil84]. **Form** [Tsi82, CS80b]. **Formal** [Jac83, Par83a, Wil83a]. **Formalisms** [Har88]. **formalization** [DT87]. **format** [US88]. **Formation** [Pic88b]. **Forms** [Ken83]. **Formula** [SB60, SB83, WWS83]. **Formulae** [KLPV87]. **FORTRAN** [Hay86, Isn82, Pet83]. **FORTRAN-77** [Hay86]. **forum** [Ash86a, Ash86b, Ash86c, Ash86d, Ash86e, Ash86f, Ash86g, Ash86i, Ash86j, Ash86k, Ash89, Ash86h, BSE<sup>+</sup>90, WWSD90]. **Foundation** [Cod82]. **Foundations** [O'D82]. **founder** [Den88]. **Four** [GL83b, HK89]. **Fourth** [Bic87, FMB88, MJ89]. **Fractal** [Man82]. **Frame** [FK85a, Öre81]. **Frame-Based** [FK85a]. **Framework** [HH88, MB81, MTY88, SA81]. **Fraud** [Kus84]. **Free** [Ear70, Ear83, SK86, AD88, Ram89]. **free-text** [Ram89]. **Freedom** [Min81, Min82, Min89, Min85]. **Freshmen**

[CM84]. **Friendly** [DC83, Dwy81b, Eis83]. **Frontiers** [DM85, Wol84a]. **FSQ7** [Bel83a]. **Full** [BM85c]. **Full-Text** [BM85c]. **Fully** [Whe09, Smi85]. **Fun** [Ben84c]. **Function** [BF83, Hor83, Kan89]. **Functional** [OB88, RRHD88]. **Functionality** [Goo87]. **Functions** [Cic80a, Cic80b, JO80, Jae81, Sag85]. **fundamentals** [Mun88]. **Funding** [GMRY86]. **Funds** [Zak83]. **funeral** [Eck80]. **Furbelow** [Ben87c]. **Further** [HWNC88, Neu84]. **Future** [Ich84, WG82, Bel89, CN85, CRD87, Gib89, MS81a, TAB<sup>+</sup>85].

**G5** [Bel68]. **game** [See89]. **Gamma** [CF80, Hou82, AD82]. **Garbage** [ACHS88, Dav84a, HC84, LH83, Mar82, Cou88]. **garbage-collecting** [Cou88]. **Gelatin** [Hec88]. **General** [CG88, Fle80, JK83, Lin80, Tay83]. **General-Purpose** [Tay83]. **Generality** [McC87a]. **Generalized** [BB81, Fra80, FT83, KJ84, LP80, MW83, Par83a, VHC88, ASSS86, Bas85, KJ85]. **generate** [TDP89]. **Generating** [AD82, Jae81, OB88, DP87]. **Generation** [Gal81, KS88, MJ89, McC83, NB84, Sha83, Bic87, Efe87, Fre89d, Hal88, HW81, Hor83, Hou82, Kwo88, Wir86]. **Generator** [Sag85]. **Generators** [EASC89, PM88, Pri84, CF80, L'E88, Sez89]. **Genesereth** [Sta86]. **genetic** [Gor88]. **Geometric** [NP82]. **Geometry** [Til84]. **GERTIS** [Yen89]. **GFSR** [Tez87]. **Ginsberg** [Sta86]. **giving** [CM87]. **global** [FH89]. **Globally** [CI84]. **Good** [PM88, RS89]. **Gordian** [Ben86c]. **Goto** [Cla84]. **Goto-Less** [Cla84]. **Government** [Kus84]. **Governmental** [Dav81]. **Graduate** [NCD82]. **grain** [MG89]. **Grammar** [Rob82]. **Grammars** [Gis81]. **Grand** [Lev89]. **Granule** [LS82b]. **GRAP** [BK86b]. **Grapevine** [BLNS82]. **Graph** [Bré79, Fle80, KJ84, CLC82, Ebe87, Kor70, KJ85]. **graph-colouring** [Kor70]. **Graphic** [Ben84f]. **graphical** [BDT86]. **Graphics** [Ano84a, BBK82, CHH88, JD88, MMS89, DDM86, Fre87d, HP86, HL81, RSS88]. **Graphs** [BK86b, CM82, Lou83, Sch83a]. **Graycode** [Boo64, Er85, Mis75]. **Greater** [Dal84]. **grey** [PW80, PW81]. **Grid** [Mae80]. **Grosch** [ED85, KMP86, Men87]. **Group** [BBB<sup>+</sup>81, DB81]. **Growth** [GH88, GMRY86, HMM88]. **Guaranteeing** [LK84]. **Guide** [Ken83, SR84]. **guidelines** [JD88, Mor83a].

**hacker** [Fre87d, Sto88a]. **Hackers** [Sam89b]. **hacking** [LSS86]. **Halley** [Pic88a]. **HAM** [CG88]. **handbook** [Fri88]. **Handling** [QCH<sup>+</sup>81]. **happy** [RR86]. **Hard** [FP88, PM88]. **Hard-Real-Time** [FP88]. **Hardware** [MM84, Kan89]. **Harmful** [McC89]. **Hash** [Bel70, BF83, Bel83b, Cic80a, Cic80b, JO80, Lar88, Mau83, MF82, NY85, Sag85]. **Hash-Function** [BF83]. **Hashcode** [Mau68]. **Hashing** [Cha84, Dod82, Har71, Jae81, Vit82, NI83]. **Haven'T** [Den81b]. **HDOS** [Pec83b]. **HDTV** [Fre89b]. **Health** [INW83, SGJ<sup>+</sup>83]. **Heaps** [Ben85f, DGST88, SV87, ASSS86]. **Help** [Hou84, BH89, CA88]. **heterogeneity** [NHSS87]. **Heterogeneous** [NHSS87, NBL<sup>+</sup>88]. **heuristic** [CN82]. **Heuristics** [BM84, Sam82, BM85a, NMF87]. **Hierarchical** [Bal81, GHJ<sup>+</sup>81, Gil80, KD80, YS83, Yen89, LWS87]. **Hierarchies** [DG82, Sil83, MYB87]. **High** [Kru81, Lau84, Pat81, YHW<sup>+</sup>89, Bel89, HC87, Lau85b, PTN88]. **High-Energy** [Lau84, Lau85b]. **High-Level** [Kru81, HC87]. **Higher** [Scu89, BLP85]. **HISDL** [Lim82]. **Histograms** [JC85]. **History** [CAB<sup>+</sup>81, Com83, Fec87, Wei83a, Lau85a]. **Hoare** [O'D82]. **home** [VVG85]. **Hopcroft**

[Fre87a]. **households** [VVG85]. **Huffman** [MP85]. **hulls** [BFP82]. **Human** [BDM81, BBK82, Jac83, Led86, Min81, Min82, Min89, Mor83a, Moz82, Nor83, BW84, BRRH85, CN85, Ear89, FLGD87, MT88, Min85]. **Human-Computer** [Jac83, BW84]. **human-system** [FLGD87]. **human-to-machine** [BRRH85]. **Human/Computer** [BDM81, Moz82]. **Humanization** [ST83]. **Hygiene** [Koc89a]. **Hypermedia** [AMY88, Hal88]. **Hypertext** [CG88, RT88, SW88, Fri88, Gar88, van88]. **Hypotheses** [Yen89]. **Hypothesis** [BDDG84].

**IBM** [GS87a, JH83, Pre89b, SG84b]. **Ichbiah** [Ich84]. **Idea** [MHWF89, PPC<sup>+</sup>89, Fet88]. **ideal** [RS89]. **Ideas** [Den81b]. **identification** [Cha85, SC87]. **Identifying** [Maz80]. **IEEE** [MD84]. **if** [BW89]. **II** [Bas85, Heh84a, Heh84c, LR82a]. **ILIAD** [Kru81]. **Illumination** [Whi80]. **Image** [DR89, FB81, LB89, Tin89]. **Images** [SI86, YS83]. **Imbalance** [GMRY86]. **Impact** [BG86, GS82, Guy88, NBGL89, OL82, SW89, Zak83, BOI86, Hop86, US88, Web88]. **impaired** [GL84]. **Imperative** [GL83a]. **Implementation** [Bic82, Bro88, DC83, Har71, HSS89, KI84, LK84, Mar83, SB82, GS87b, Nas85, Raj85]. **Implementations** [Vit82, Jon86, Wil83a]. **Implications** [OL82, SGJ<sup>+</sup>83]. **Implicit** [KJ84, KJ85]. **Implosive** [Kor82]. **Importance** [Jar88]. **Important** [CCZD84]. **imprecision** [Ano84b]. **Improved** [Fra82, Jon84, Mau68, Mau83, Whi80, HSCP87, Lit84]. **Improving** [Cou88, EM82, Mor82]. **In-Place** [HL88]. **Incentives** [DSB84]. **incorporating** [MT88]. **increased** [CF80]. **Indentation** [MMNS83]. **Independent** [VR89]. **Index** [Ano80c, Ano80a]. **Indexed** [PBC80].

**Individual** [Sha84]. **induction** [Man88]. **industrial** [MG86]. **Industry** [DPNW84, Fre89b]. **Inevitable** [SB82]. **inference** [LWS87]. **Informal** [Abb83]. **Information** [AA80, Ala84, Ash84, Bla84a, Bla84b, Cla88, DS83, Dav84b, Den76, Fin84, Fox88, GJ82, Gin83, HT85, INW83, IOB83, IL84, Kee81, KK84, KI84, Luc84, MK85, MC83, Mor82, Nun81, NCD82, Oli83, Rob81, SW89, Ahi87, BOI86, BDT86, Dav86, DK87, Dol88, Fri88, HK89, MGT<sup>+</sup>87, SFW83, SS86a, YBCR88]. **information-sharing** [MGT<sup>+</sup>87]. **Initial** [LGH83, SGJ<sup>+</sup>83, GKB86, YM86]. **initialization** [Sch81]. **Initiative** [Abr88, Lie86]. **Inman** [Ste83]. **Input** [AV88]. **Input/Output** [AV88]. **Insecure** [Lam81]. **Inserting** [Ros81]. **Insertion** [Epp83, Ger88]. **Inspection** [SDP84, SDP87, Ste89b]. **institutional** [Lau85a]. **Instruction** [CS80a, HSS89, CK86, Pat85]. **Integral** [HP67, HP85, LR82b, LR82a, eL76]. **integrating** [RRHD88]. **Integration** [MR84a, BDT86]. **integrity** [Sal88]. **Intelligence** [AEH<sup>+</sup>89, Mar84, BH89, McC87a]. **Intelligent** [MGT<sup>+</sup>87, Ste89b, CA88]. **interaction** [BW84]. **Interactive** [CMN80, Dix89, GL83b, LWSS80, Lin80, MC83, Med84, Fox89, Fre89d, HP86, LB89, MD89, Ste89b, WB85]. **Interconnecting** [NBL<sup>+</sup>88]. **Interface** [BB81, BDM81, Bro83, CC84, CM87, Jac83, MMS89, Moz82, SAC86, Bas85, GL84, GWWJ84, Gru89, KS89, KK88, Mor83a, NBGL89, SK88]. **Interfaces** [ST83, DLS83, Sam89a, Bur83]. **Interim** [MD84]. **Interior** [MTY88]. **Internal** [Gon83, Ger88]. **International** [Dav84b, Gin83, Dav86]. **Internet** [Spa89]. **interorganizational** [Lau86]. **Interplay** [Tur84]. **Interpretation** [Jon84, Coh85]. **Intersecting** [NP82]. **Intertwining** [SB82]. **interval** [HW81]. **Intervals** [All83].

- Interview** [Ano84a, Hay84, Ich84, Ste83, Ano84b, Fre86b, Fre87a, Fre89c].
- Interviews** [Bro84a]. **Introduction** [DS83, Dav84b, DM85, Den85, Fec87, Fre86e, Fre87b, Gin83, Ham88, Hua82, McC83, MR89, Neu84, NS84, ST83, SJ89, SW88, Wol84a]. **introductory** [AS86, BM85d]. **Invariant** [SI86]. **inverse** [Asa80, Hor83]. **inverted** [Mer85]. **investigating** [BDT86].
- Investigation** [BP84, FR84, MTY88, CK86, VW86].
- involvement** [BOI86]. **islands** [Abr84].
- Issue** [Fre86e, SW88]. **Issues** [LR82b, Mow81, SJM<sup>+</sup>87, Zak83, CM87, Cra87, DLA85, Hal88, TAB<sup>+</sup>85]. **items** [DF84, KS86]. **Iteration** [GH89a]. **Ivan** [Fre89c]. **IX** [Wei82b].
- J** [Den87a, RHC87]. **January** [Eck80].
- Japan** [Lam88]. **Japanese** [Lic83]. **Jean** [Ich84]. **Jell** [Hec88]. **Jell-O** [Hec88]. **Job** [BL83, SGJ<sup>+</sup>83, BG86, ZSEG82]. **Jobs** [Tur84, Web88, DF89]. **John** [Aue80, Fre87a, McC80, Pap85, Pel88].
- Joint** [MD84]. **JSP** [San85]. **Junk** [Den82].
- Just** [Sam86]. **Justified** [Sam82].
- Karp** [Fre86b]. **KEK** [BHK<sup>+</sup>80].
- KEKOPEN** [BHK<sup>+</sup>80]. **Kernel** [WKP80].
- Key** [Boo81, DS81a, Den84, KWS83, RSA78, RSA83, Ste83, GL85]. **Keynote** [van88].
- Keys** [Wil84]. **Keystroke** [CMN80].
- Keystroke-Level** [CMN80]. **Keywords** [Eas82]. **Kit** [TvSKS83]. **KMS** [AMY88].
- Knot** [Ben86c]. **Know** [AR84]. **Knowledge** [Abb87, AMY88, All83, CW89, Has84, Kai81, MB81, WK88, BW89, CM88, Fil88, Fri85, TDP89, WK89, YHW<sup>+</sup>89].
- Knowledge-Based** [CW89, WK88, Fil88, Fri85, WK89].
- knowledge/expert** [CM88]. **Known** [LR82b]. **Knuth** [Fre87e].
- L** [Fre87c, RHC87, Sta86]. **Laboratory** [Jar88]. **LAN** [Pre88]. **Language** [BK86b, Bla89, Bla84b, CW89, Eas82, Kru81, LWSS80, MMP84, Pat81, PB80, Sam86, Ske82, VR89, WOS83, Weg81, Wei66, Wei83b, Wil83b, BRRH85, Gou86, HC88, Jal87, Lim82, NBGL89, ON85, Wir85].
- Language-Independent** [VR89].
- Languages** [Ben86e, Bro84a, Gis81, MB81, RAV83].
- Lara** [Gut85]. **Large** [Cod70, Cod83, Com80, CKI88, GL84, Lau86, NS87a, NS87b]. **Laser** [Fuj84]. **late** [WAB<sup>+</sup>88]. **Latin** [Man85]. **Lattice** [Den76].
- Law** [Ash84, Gem89, ED85, Gus88, KMP86, Lad89, Men87, Sam89a]. **Laws** [HHH<sup>+</sup>87, HHJ<sup>+</sup>87]. **layered** [BCDM89].
- leaf** [GS87b]. **Learnability** [KLPV87].
- Learnable** [Val84]. **learned** [AHM89, SJM<sup>+</sup>87]. **Learning** [CCZD84, CA88, LGH83, MDV86, Moz82, Sol86, Win80, NBGL89]. **Lecture** [Gre88, Coc88]. **Led** [FR84]. **Legal** [Gra84, Yoc89, Zak83, BH89, DLA85].
- Legged** [Rai86]. **Length** [Tur82, DF84, Ger88, HW81].
- Length-segmented** [Tur82]. **Less** [Cla84].
- Lesson** [Koc89a]. **Lessons** [AHM89, SJM<sup>+</sup>87]. **Letter** [Abr88, Dun81, Mil81, Pet81, Abr86a, Abr86b, Abr86c, Fra86, Gol86a, Gol86b, Koc89b]. **Letters** [GCH83, HWNC88, MHWF89]. **Level** [CMN80, Kru81, MAB<sup>+</sup>81, Pat81, HC87, YHW<sup>+</sup>89]. **levels** [Efe87]. **Liberal** [GT86].
- Liberty** [Fre86c]. **lie** [FW86]. **Life** [Dix89, San89b, WK88, KDK89, San89a, WK89].
- lifecycle** [MT88]. **Lifetimes** [LH83]. **Like** [Jon84]. **limits** [MG86]. **Linda** [CG89].
- Lindsay** [Thi89]. **Line** [Fuj84, LCWB80, MK80, Sam82, O'R81].
- Linear** [Lee80, MMS89, McC82, Nas85].
- Linearizer** [CN82]. **lines** [O'R81]. **Linked** [Boz84]. **Linuistic** [Cla84]. **Lisp** [SS80].
- Lisp-based** [SS80]. **List** [Ano80b, ST85, BHP81]. **Listening**

- [GCH83]. **Lists** [Boz84, CK80, DDB81, HH87, Tur82].  
**Literacy** [Van87]. **Literally** [Van87].  
**Literate** [BKM86, Den87a, Knu92, VH87, VJW87, VHC88, VL89, VR89, BK86a].  
**Literature** [SR84]. **Little** [Ben84c, Ben86e].  
**load** [LH86]. **Local** [Bur83, MB76, MB83, SH80, Spe82, YM86].  
**locality** [Cou88]. **Locally** [BSTW86, RHC87]. **Location** [Com80, ST86]. **Locking** [PL80]. **Logic** [GG85a, SC82, Sta86, Kow88, Lan86, SSK<sup>+</sup>86, VW86]. **Logical** [CY80, Oli83, BI87]. **logicians** [Rin88].  
**Logics** [O'D82]. **Long** [DBFJ86, Smi81].  
**Long-Range** [DBFJ86]. **Long-Term** [Smi81]. **Look** [Mul83, Vui80, Sal86, Sam89a, Sar88].  
**look-up** [Sar88]. **Lookaside** [Boz84]. **Loop** [Lub89]. **Looping** [SBE83]. **Lost** [Gla80].  
**Lot** [Ben84c]. **Lotfi** [Ano84b]. **Low** [DDB81]. **LR** [Fin85].
- M** [Fre87a, Pel88, Sta86, Pec83b]. **Machine** [AC83, Bro83, CG88, CFH<sup>+</sup>80, Tuc84, Wei66, Wei83b, BRRH85, SK86]. **Machines** [CCZD84, Fre86d]. **machining** [Gro86].  
**Macro** [Ash81, TY80]. **Made** [Cic80a, Den81b, LS82b]. **Mail** [Cha81, McC89, DG87, Wei82].  
**Maintainability** [Ber84]. **Maintaining** [All83]. **Maintenance** [ASZ84, Gre84, Gui83, LS81, MK80, VW83, Fil88, GS89].  
**Major** [CM84, Lem85]. **make** [Cha85].  
**makes** [RR86]. **Making** [Fec87, TvSKS83, JD88]. **Man** [Bro83, Wei66, Wei83b]. **Man/Machine** [Bro83]. **Manage** [Lic83]. **Management** [Bla84b, Che82, DS83, Fin84, Gou82, PL80, RF83, Sto81, Cou88, Dol88, HS86b, OA85, Tsi82]. **managerial** [JD88]. **Managing** [AMY88, CM88, Gui83]. **Manchester** [GKW85]. **Manifesto** [MK85].  
**Manipulation** [KL83, Bil81, Bil82, SW85].
- Manuscripts** [MKNS87]. **March** [Ano80b].  
**marketing** [BBLP86]. **markets** [MYB87].  
**Markup** [CRD87]. **Masks** [SDP84, SDP87].  
**massively** [Fre86d]. **Master** [Dwy81a, Ing81, MAB<sup>+</sup>81]. **Match** [PBC80, HC87]. **Matching** [DSK84, KR81, Kus84, Sha84, ZT89, HC87, KMP77]. **Math** [KWS83]. **Mathematical** [Ral84, Wol84b, Wol85, DG87].  
**mathematically** [Ber87]. **Mathematics** [CCFJ84, CCFJ85]. **Mathsy** [PB80].  
**Matings** [Bib83]. **matrices** [Bib83, GO81, San84]. **Matrix** [Gus78, HKM80, McN71, Sip77, Dei80, OS85].  
**Matures** [GWY89]. **Mauchly** [Aue80, McC80]. **max** [ASSS86]. **MCC** [Ste84]. **MCOBOL** [TY80]. **mean** [DS81b].  
**mean-squared-error** [DS81b].  
**MEANSORT** [Mot83]. **Measure** [Nej88].  
**Measured** [SH80]. **Measurement** [IOB83, KST<sup>+</sup>86, MB89b]. **measuring** [MB89a]. **Mechanics** [KS84, KS85].  
**mechanisms** [Gar88, Sol86]. **Medial** [Sam83]. **Median** [Bro84b]. **Mediated** [HT85, Hil88, Tur84]. **medical** [Fri88].  
**medium** [dSA86]. **Medusa** [OSS80].  
**Meekings** [HC86]. **Meeting** [YRS<sup>+</sup>83].  
**meetings** [SFB<sup>+</sup>87]. **Member** [Bel83a].  
**Memorandum** [Ben87c]. **Memory** [Bec82, Dav84a, VR82, Wad84, Cou88, Leb88, RT86, SW86a]. **memory-based** [SW86a]. **Menu** [Bro82]. **menus** [KS86].  
**Merging** [HL88]. **Mesa** [LR80]. **Message** [GBL<sup>+</sup>87, Efe87, GG85b].  
**message-switching** [GG85b]. **Messages** [Bro83, Shn82b]. **metamodel** [Ahi87].  
**Metaphor** [MM83]. **Method** [AC83, Bai89a, Bel70, Bel83b, Cic80b, Gom84, JO80, Jae81, LK84, MTY88, MF82, OB88, Pic88a, RSA78, RSA83, HW81, NI83, PKT83]. **Methodological** [DW83].  
**Methodologies** [And84]. **Methodology** [BK89, Isn82, RM83, BS81, BPR88, Bro80].  
**Methods** [Bré79, LCWB80, Lau84, LR82b,

QCH<sup>+</sup>81, SB88, Vit84, AD88, Lau85b].  
**metric** [HC86]. **Metrics** [GKB86, Rey87].  
**microanalysis** [Coh82]. **Microcomputer**  
 [Pec83b, ACHL88, GP86, SD86].  
**Microcomputers** [Pec81, Wic82].  
**microelectronics** [Bir85, Fre85a].  
**Micropipelines** [Sut89]. **Microprocessor**  
 [Wir86]. **Microprogramming** [Pat81].  
**microscope** [RE89]. **Microsoft** [Pre89a].  
**Migration** [Smi81]. **Military** [Tho86]. **Min**  
 [ASSS86]. **Min-max** [ASSS86]. **MINI**  
 [Wic82]. **MINI-EXEC** [Wic82].  
**Minicomputer** [JH83]. **Minimal**  
 [CHH88, Cha84, Cic80a, Cic80b, EASC89,  
 JO80, Jae81, LS82a, Sag85, Ger88].  
**Minimum** [DS81b]. **MIS** [BL89, DC83,  
 DT87, GB88, Mar83, MG86, MG85, Mor82].  
**Misconceptions** [BM83]. **Misspelled**  
 [Bic87]. **mistakes** [SS86b]. **mode**  
 [BRRH85]. **Model** [Abr89, Bar80, Bic82,  
 CMN80, Cod70, Cod83, Den68, Den76,  
 Den83, Dol88, EDF84, EDF87, GHJ<sup>+</sup>81,  
 GT86, KK84, NY85, Rot81, She87, Whi80,  
 AI88, FB81, HP86, SC87, TWBK89, Web88].  
**Modeling**  
 [CGM83, Rau85, San89b, Sch83a, AHM89,  
 Dol88, Nan81, Rey87, San89a, SJM<sup>+</sup>87].  
**Models**  
 [DW83, FFC82, Kem87a, Man82, McC82,  
 BS81, CN82, DP87, Kem87b, Lau85a, ON85].  
**moderated** [Den87a]. **Modification**  
 [EM82, Pee83]. **modified** [AD82]. **Modular**  
 [Tur80]. **Modularity** [Lev82]. **Module**  
 [Par83b, Par72]. **molecular** [Con85].  
**monitoring** [IHS86]. **Monitors** [LR80].  
**Monte** [Bel83c, BF83, Lau84, Lau85b].  
**Morris** [EGH<sup>+</sup>89]. **MR** [Dei80, RHC87].  
**Multi** [SDP84, BCDM89, SDP87].  
**Multi-Colored** [SDP84, SDP87].  
**multi-layered** [BCDM89].  
**Multidimensional** [Ben80, Lou83, YS83].  
**Multimedia** [Rip89, MD89]. **Multipathing**  
 [Bar80]. **Multiple**  
 [KL83, Lub89, MH81, YM86].  
**Multiple-Loop** [Lub89]. **Multiple-Stack**  
 [KL83]. **Multiplication** [AA80, San84].  
**Multiprocessing** [MR89, RT86].  
**multiprocessor** [JAV86]. **multiprocessors**  
 [BD81]. **Multiprogrammed**  
 [DvH66, DV83]. **Multiprogramming**  
 [Dij83b, Dij68]. **multivariate** [Sch81].  
**Museum** [Bel83a]. **music** [Gou86]. **Mutual**  
 [RA81]. **Mxec** [Ash81]. **myth** [HS86b].  
**Name** [Lib89, FH89]. **Names**  
 [Bic87, Jon84, LGH83]. **NASA** [TTH<sup>+</sup>84].  
**Nation** [GL83a]. **National**  
 [Bur83, DPNW84, GL83a, Lau85a].  
**Nationality** [SSK<sup>+</sup>86]. **Natural**  
 [BRRH85, Bla89, Bla84b, LGH83, LWSS80,  
 Wei66, Wei83b, NBGL89, RS86]. **Naval**  
 [Ree87]. **near** [Dei80]. **near-optimal**  
 [Dei80]. **Nearly** [CK80]. **Need** [Dal84].  
**Needs** [Kus84, Ral84]. **Negative** [Pri84].  
**Neglected** [Bro83]. **Neologisms** [Eas82].  
**nesting** [DBB84]. **Nets** [Gis81]. **Network**  
 [Com83, MD82, OO80, PV81, CN82, GS85,  
 NMF87, SH80, Spe82]. **Network-Based**  
 [MD82]. **Networks**  
 [Bro82, FFGL88, Lub89, McC89, MB76,  
 MB83, Pic88b, QH86, RA81, SC82,  
 BCDM89, CS80b, JL82, LL83, ZSEG82].  
**News** [Ste89a]. **next** [Fre89d, Hal88].  
**nineteenth** [NK89]. **NIOSH** [SGJ<sup>+</sup>83]. **No**  
 [BH84, RT86]. **nodes** [Lit84, Pec81]. **Nolan**  
 [KK84]. **Non** [Dav81]. **Non-Governmental**  
 [Dav81]. **Noniterative** [WWS83].  
**Nonlinear** [CCFJ84, CCFJ85].  
**nonstationary** [Cla81]. **Normal**  
 [Bel68, Ken83, Tra82, AD88, LCJ86].  
**Normalization** [CG86]. **normalized**  
 [Smi85]. **North** [NK89]. **Northbay** [Bel83a].  
**Notable** [QH86]. **Notation** [BBK82, Ive80].  
**Note** [Lam81, Led86, Pic88a, HC86, Pet86].  
**NoteCards** [Hal88]. **Novel** [Bot86]. **Novice**  
 [Eis83, SS86b]. **NPATH** [Nej88]. **NSF**  
 [Hay84]. **nuclear** [Bor87]. **Null**  
 [Til84, Fin85]. **Null-Object** [Til84].

**Number** [Che82, EASC89, IR88, KC73, MK80, PM88, Pri84, Bro72, Hua82, KC83, L'E88, Sez89, Smi88]. **Numbers** [FT83, Luo89, Pri81a, Pri81b, Tez87]. **Numerical** [Ell60, Nov85, Pet83, Asa80, Gro86].

**O** [Hec88]. **Object** [Bai89a, Til84, BPR88, JK87]. **Object-Oriented** [Bai89a, BPR88, JK87]. **Objects** [LH83]. **Observations** [JC85, Pre89a]. **obsolete** [Cha85]. **obstacle** [RT86]. **Obtaining** [RSA78, RSA83]. **Occupancy** [Dav84a]. **Occupational** [INW83]. **octtrees** [Tam84]. **Office** [OL82, Ols83, Ree87]. **Old** [Den81b, Hoa81]. **Olympic** [GBL<sup>+</sup>87]. **On-Line** [Fuj84, O'R81]. **On-the-Fly** [HC84, Kes83]. **One** [BBB<sup>+</sup>81, Dwy81a, Ing81, LK84, Ros81, Wei83a]. **Ones** [PM88]. **Online** [GL83b, Hou84, Bot86]. **Open** [BHK<sup>+</sup>80, LR82b]. **Operating** [HSS80, JH83, Pec83b, RDH<sup>+</sup>80, Sto81, OSS80, Sha88]. **operational** [Zav84]. **Operations** [Jon89, Mar84, Spe82]. **Operator** [BL83, LH86, HC87]. **Operators** [Pey86]. **Opportunities** [Gro86]. **Optical** [Fuj84, YSB<sup>+</sup>89]. **Optimal** [DF84, Lou83, RA81, Dei80, LH85, SW86b]. **Optimality** [Pea82]. **Optimization** [Kes83, KSL84, PW86, DZ89]. **Optimized** [Fin84]. **order** [Dei80]. **Ordered** [Cha84]. **orders** [Koo86]. **Organick** [Lin86]. **Organization** [KV83, LK84, OL82, QCH<sup>+</sup>81, Rob81, Lan86]. **Organizational** [Kee81, KK84, Luc84, SS86a, SW89, SK87]. **Organizations** [AMY88, AR84, Luk83, WWS83]. **Organizing** [BM84, BM85a, HH87]. **Oriented** [Bai89a, BPR88, Ebe87, JK87, RW85]. **origins** [Coh88]. **Orthogonal** [Man85]. **Other** [Den84, LR82b, LR82a, JM89]. **our** [BH89]. **outcomes** [BG86]. **Output**

[AV88, Ben84f, SA81]. **Overflow** [NY85]. **Overhead** [Boz84]. **Overload** [HT85]. **Overrelaxation** [AC83, Asa80]. **Overview** [Coo83, SC88, Ste85a, WAC84, Bur83, Ste85b]. **Oxford** [RT88]. **Oyster** [Ben83b].

**Package** [Gus78, HKM80, McN71, Mey82, NB84, Sip77, Nas85, SW85]. **packages** [GKB86]. **Packet** [MB76, MB83]. **pagination** [DF84, LH85]. **Paging** [ST85]. **Pairing** [SV87]. **pairs** [SCL87]. **panel** [LSS86]. **Papers** [Dav84b, Gin83, Dav86]. **paradigm** [FB81]. **Paradigms** [Den87b, Raj85, HK89]. **Parallel** [And81, Ash81, CM81, CGM83, Den86, DGST88, GH89a, GH89b, Hal89b, Hal89a, HS87, LS84, LW86, PV81, SB88, SK86, ZS84, CLC82, FH89, Fre86b, Fre86d, HS86a, HSCP87, MG89, OS85, Ram89, RW87, TDP89, Tin89]. **parallel-processing** [RW87]. **Parallelism** [Fre86e]. **parameter** [CF80]. **Parametrically** [LCWB80]. **Parlog86** [Rin88]. **Parse** [PC89]. **parser** [Fin85]. **Parsing** [Ear70, Ear83, Pey86]. **Part** [Gus78, HKM80, McN71, Sip77, Wei83a, Heh84b, Heh84c]. **Partial** [PBC80, Rey87]. **Partial-Match** [PBC80]. **particular** [Fre87e]. **Partition** [OB88]. **Pascal** [JK87]. **Pass** [Has84]. **Pass-Algorithms** [Has84]. **passion** [Fre87e]. **Password** [Lam81, See89]. **Past** [Ich84, Coc87, Wei87a]. **Patent** [JY89]. **Path** [CM82, Gon83, Nej88, Ger88]. **Paths** [Lou83]. **Pattern** [KR81, Pic88b, ZT89, HC87, KMP77, LWS87]. **pattern-directed** [LWS87]. **Pattern-Matching** [KR81]. **Patterns** [Dav84a, Fed81, LW86, ZS84, Ols83, VVG85]. **PC** [Jal87]. **PCs** [Pre89b, MJ89]. **Pearls** [Ben83a, Ben83b, Ben83c, Ben83d, Ben84a, Ben84b, Ben84d, BG84, Ben84j, Ben84e, Ben84f, Ben84g, Ben84c, Ben84h, Ben84i, Ben84k, Ben85b, Ben85c, Ben85d, Ben85a, Ben85e, Ben85g, Ben85f, Ben86b, Ben86c, Ben86d, Ben86a, BKM86, Ben86e, BG87,

Ben87c, Ben87a, Ben87b, BF87, BK86a].  
**Pennsylvania** [Eck80]. **People** [D'A84, WAB<sup>+</sup>88]. **perceptions** [HR85a, NN89]. **Perfect** [Cha84, Cic80a, Cic80b, JO80, Jae81, Sag85, Bai89b].  
**Performance** [And84, Ben84h, BD81, CFH<sup>+</sup>80, CMN80, Den81a, EDF84, EDF87, Fed81, HH88, HC84, Jal84, KD80, MJ89, McC82, OO80, Bel89, BM85d, CDV<sup>+</sup>86, Coc88, GS89, IHS86, Jal87, Kan89, MB89a, Pre88, Ram89, SH80, Smi88, US88].  
**performing** [Spe82]. **perils** [BMS86].  
**periodicals** [Lem85]. **persistent** [ST86].  
**Personal** [Den80, Ken80, MSC<sup>+</sup>86, RDH<sup>+</sup>80, WOS83, JM89, MOR<sup>+</sup>88].  
**Personnel** [Bar83]. **Perspective** [Ben84h, GB88, Hay84, Scu89, SW89, Tuc84, Jal87, KK88, RE89, SG86]. **Perspectives** [FR84]. **perturbed** [GO81]. **Petri** [Gis81].  
**Physics** [Lau84, MM83, PRT84, PB80, Wol84a, Lau85b, PRT85]. **Picture** [Wad84].  
**Piecing** [Fre86a]. **Pilot** [RDH<sup>+</sup>80]. **Pilots** [CN85]. **Pioneer** [Fre87c]. **Pipeline** [SDP84, SDP87]. **Piracy** [MM84]. **PL** [Jal84]. **PL/1** [Jal84]. **Place** [HL88].  
**Placement** [KSL84, YSB<sup>+</sup>89]. **Plan** [TKM<sup>+</sup>89]. **Planar** [ST86]. **Plane** [NP82].  
**Plane-Sweep** [NP82]. **Planning** [DBFJ86, DT87, Lam88]. **Plans** [Gal81, SLL<sup>+</sup>88]. **plausibility** [AS87].  
**plausibility-driven** [AS87]. **Point** [KC73, KC83, ST86]. **Pointer** [Suz82].  
**pointers** [HH87]. **Poisson** [FG88]. **Policies** [Goo82, PL80]. **Policy** [GGW80, Goo82, Med84, Cra87]. **Political** [FR84]. **Politics** [Mar83]. **Pólya** [Cla81].  
**polygon** [LB83, LB84b, LB84a]. **Polygonal** [SDP84, SDP87]. **Polynomial** [Bil81, Bil82, Ell60, Nov85, Sag85]. **pools** [KNT88]. **Portable** [JH83, TvSKS83, Wic82, L'E88, Sez89].  
**Position** [Ske82]. **Positive** [LSS86].  
**possession** [JL82]. **Potential** [Maz80, BH89]. **Power** [Luc84, Mar83, MBA87, BW89, ED85, KMP86, SS86a].  
**Pracnique** [Mot83]. **Pracniques** [Dod82, Gau81, Gau82, Ing81, Shn82b].  
**Practical** [Cod82, GK82, HL88, Ram89, TvSKS83, Luo89]. **practicality** [TT82].  
**Practice** [And81, Gil82, OL82, Tuc84, RKM88].  
**Practices** [SH82]. **pragmatic** [Mil85].  
**pragmatics** [SJM<sup>+</sup>87]. **Precision** [CF83].  
**Precollege** [RME84]. **Predicative** [Heh84a, Heh84b, Heh84c]. **Predicting** [BM85d, CM84, AI88]. **Prediction** [EDF84, EDF87]. **predictors** [NI83].  
**predicts** [ES89]. **prepared** [BBB<sup>+</sup>81].  
**Preparing** [RME84]. **Prescription** [Pap85].  
**Present** [Ich84]. **presentation** [BDT86].  
**Preservation** [Hal89b, Hal89a]. **president** [Fra86, Abr86a, Abr86b, Abr86c, Abr88, Gol86a, Gol86b, Koc89b]. **Press** [Fox88].  
**Price** [Fed81, SD86]. **Price/Performance** [Fed81]. **Pricing** [Men85]. **Primary** [Car84, GS84b, MR84a, SG84a]. **Prime** [Pri84, Luo89, Pri81a, Pri81b]. **Principle** [Ich84]. **Principles** [And81, JY89, KV83, MMP84, Mey82, YL89, Con85, GL85, GBL<sup>+</sup>87]. **Printing** [VHG87, Gou86]. **Priority** [Bro88, Jon89, ASSS86, Jon86].  
**priority-queue** [Jon86]. **Privacy** [DPNW84]. **Private** [DR89]. **Probabilistic** [Gor88, HH87]. **probabilities** [FG88, LCJ86]. **Probability** [NY85].  
**Problem** [Bro88, Dij65, Dij83a, Lev82, Sam82, Bro72, Efe87, FLGD87, Kor70, Lit84, SH85, SFB<sup>+</sup>87, TK89, VD83]. **Problems** [AV88, GL83b, INW83, LLK82, LS81, Pet83, Bro80, CLC82]. **Procedural** [SC82].  
**Procedure** [DLA85, Gou82, Gup84, HS80a, KL83, Weg81, Wei82b, Wei83a, WC84, Bic89, BHP81, Lan86, Mun88, SC87, SB86, Wei87b].  
**Procedures** [SC80, YM86]. **Process** [Kru81, CKI88, Lau86, Rey87]. **Processes** [Hoa78b, Hoa78a, LR80, Hoa83b].  
**Processing**



[ALN87, Ash81, BHK<sup>+</sup>80, EDF84, EDF87, Han83, IR88, Sil83, Ste82, Sus63, Sus83, VJW87, Wad84, Bec87, CRD87, CLO85, Fre86b, Leb88, MG89, RW87, SB86].

**Processor** [Bla89, HSS89, SS80].

**Processors** [Fra82, HS80b, PRT84, Coc88, PRT85].

**product** [CS80b, Dei80, RS86]. **production** [Kan89]. **productions** [Fin85].

**Productivity** [BL83, Cod82, Hil88, HR85a, KDK89, NBGL89, NN89]. **Products** [Fox88, Dei80]. **Professional** [SC88].

**Professionals** [INW83, Min82, Min89, Ste82, MBA87, Min85, NN89]. **Proficiency** [KWS83, ES89]. **Profilers** [Ben87a].

**Profiles** [Fre87c, Fre87d, Fre87e, Fre87b].

**Program** [Abb83, Ben84c, BKM86, BM87, Cha82, Den68, Den83, DR89, EM82, Fet88, Gre84, Gui83, GK82, Hou80, JK83, MMNS83, MD84, PPC<sup>+</sup>89, RAV83, RS86, RS81, TR81, VL89, VW83, Wei66, Wei83b, Wil83a, Wir71, Wir83, AJ88, BDT86, Gib89, Gui85, MDV86, Nas85, Ree87, Rob86, SSK<sup>+</sup>86, Sol86, Wey88].

**program-based** [Wey88]. **Programmable** [BCDM89]. **Programmed** [Mad84].

**Programmer** [BM83, Eis83, HR85a, BG86].

**programmer/analyst** [BG86].

**Programmers** [Lic83, SC88, Wei82a, CK86].

**Programming** [BM83, Ben83a, Ben83b, Ben83c, Ben83d, Ben84a, Ben84b, Ben84d, BG84, Ben84j, Ben84e, Ben84f, Ben84g, Ben84c, Ben84h, Ben84i, Ben84k, Ben85b, Ben85c, Ben85d, Ben85a, Ben85e, Ben85g, Ben85f, Ben86b, Ben86c, Ben86d, Ben86a, BK86a, BKM86, Ben86e, BG87, Ben87c, Ben87a, Ben87b, BF87, Cla84, Den87a, DvH66, DV83, Dij65, Dij83a, Eas82, Heh84b, Heh84c, Hoa69, Hoa83a, Isn82, Knu73, Knu92, MMS89, Man81, Maz80, McC82, O'D82, Rot81, Sam86, Sle86, TR81, VH87, VJW87, VHC88, VL89, VR89, WG82, Weg81, Wei84, AS86, Bro80, Fil88, GG85a, HR85a, Heh84a, HHH<sup>+</sup>87, HHJ<sup>+</sup>87, HC88, JK87, Kow88, Lis88, San85, Sta86, Wir85].

**Programs** [And81, BB81, Ben83c, Ben83d, CW89, Cro81, MAB<sup>+</sup>81, Nun81, NCD82, Pet80, SH82, Tay83, Tur80, Bas85, BI87, BAC85, BM85b, Coh82, Gut88]. **Progress** [SR84]. **Project** [AHM83, Gou82, Sha83, SJM<sup>+</sup>87]. **projects** [CM88, MG85]. **PROLOG** [CG86, ACHS88, Coh85, Coh88, Col85].

**promise** [BMS86]. **Proofs** [And81]. **proper** [Bro80]. **Properties** [LR82b, LR82a].

**Property** [LS82a]. **Proposed** [Lee81, Ral81, Bur83, Efe87]. **prosthesis** [GL84]. **protected** [Sam89a]. **Protection** [Bic82, Gra84, JY89, LY89, MM84, YL89, Yoc89]. **protein** [LWS87]. **protocol** [EGL85]. **Protocols** [DS81a]. **Prototype** [GKW85, TY80, CM88]. **Prototyping** [Ala84, MC83]. **Provide** [DSB84]. **Pruning** [Pea82]. **pseudocode** [Rob86].

**Pseudonyms** [Cha81]. **Pseudorandom** [FT83, Tez87]. **Psychology** [MB81]. **Public** [Boo81, Cra87, Den84, DR89, RSA78, RSA83, BBB<sup>+</sup>81, DB81]. **Public-Key** [Den84, RSA78, RSA83]. **Purpose** [CG88, JK83, PRT84, Tay83, PRT85].

**Pygmalion** [SAC86].

**quad** [Sam80b, Tam84]. **quad-** [Tam84]. **quadcode** [LL87b]. **Quadcodes** [LL87a].

**Quadratic** [Bel70, Bel83b]. **Quadtree** [Sam83, Sam85]. **Quadrees** [Gar82, Sam80a, DRS80]. **qualitative** [SJM<sup>+</sup>87]. **Quality** [GK82, Mor82, BK89, KDK89, Lau86].

**Quantiles** [Hil70b, Hil81b, JC85, eL79].

**Quantum** [MM83, Gut88]. **Quarter** [Neu84]. **Queue** [Bro88, Jon86]. **queueing** [CS80b, CN82, GG85b, JL82, LL83, Men85, ZSEG82]. **Queues** [Bro88, Jon89, ASSS86, Cla81, Kel85].

**Quicksort** [Wai84, Wai85]. **Quite** [Den81b].

**Quo** [Tra81]. **Quotient** [Bel70, Bel83b].

**R** [RHC87, Sta86, Ste83, CAB<sup>+</sup>81]. **paces** [Ear89]. **Radix** [AC83]. **Radix-** [AC83].  
**Random** [Bel68, EASC89, FB81, KS88, PM88, Tra82, Vit84, Hor83, Koo86, L'E88, Sez89].  
**Randomized** [KR81, EGL85]. **randomness** [Kar86]. **Range** [DBFJ86, CF80]. **ranges** [O'R81]. **Rating** [Lem85]. **Rational** [FR84].  
**Ray** [Hec88]. **re** [ED85, KMP86]. **re-visited** [ED85, KMP86]. **Readability** [EM82, Lem85]. **reader** [GS87b]. **Reading** [HH88]. **Readings** [Sto88b]. **Ready** [DDB81]. **Real** [Bla89, CF83, FP88, Gla80, Gom84, LH83, McC82, Ano84b, CDV<sup>+</sup>86, Gom86, KK88, NS87a, NS87b, San89a, YSB<sup>+</sup>89].  
**Real-Time** [Bla89, CF83, Gla80, Gom84, LH83, CDV<sup>+</sup>86, Gom86, NS87a, NS87b, San89a, YSB<sup>+</sup>89].  
**Real-World** [McC82]. **Realities** [Kah83].  
**Reality** [DR89, HS86b]. **reallocation** [YM86]. **Really** [Dij89b, RS80]. **Reasoning** [FK85a, Fil88, Win80, SW86a]. **rebalancing** [SW86b]. **recall** [US88]. **recipient** [Pel88].  
**recipients** [Fre87a]. **Reciprocal** [Jae81].  
**recognition** [BCDM89, LWS87, SR85, YHW<sup>+</sup>89].  
**Recommendations** [GGW80, MAB<sup>+</sup>81, NCD82].  
**Recommended** [KMW84, KSW85].  
**reconstructible** [dSA86]. **record** [Lau86].  
**Records** [Che82]. **Recovery** [KvE84, KNT88]. **Rectangular** [Kun88].  
**recursive** [TK89]. **Reduced** [Pat85].  
**Reduces** [Boz84, Gau81]. **Reducing** [Dod82, NI83]. **Reduction** [Gon83].  
**redundancy** [Sar88]. **Reed** [MS81b].  
**Reevaluating** [Gus88]. **reexamination** [SS86a]. **reference** [Cou88]. **References** [Öre81]. **Refinement** [TKM<sup>+</sup>89, Wir71, Wir83, Rey87].  
**Reflections** [Hal88, Rit84, Tho84]. **Reform** [GL83a, MG86]. **regenerative** [HL81].  
**Region** [DRS80, Sam80a]. **Register** [FT83]. **Regression** [HL81]. **Regression-adjusted** [HL81]. **Regular** [VHC88]. **Regulation** [Zak83]. **Reid** [Fre87d]. **Reject** [Gei84]. **rejection** [AD82]. **Related** [AV88]. **Relating** [SC82]. **Relational** [BPR88, Cod70, Cod82, Cod83, HM84, Ken83, DK87, HC87, RS89, TK89]. **relations** [CG86]. **Relationship** [Scu89, DT87, SD86]. **Relationships** [SK87, Nan81]. **Relative** [EDF84, EDF87]. **Relaxed** [DGST88]. **reliability** [Bor87].  
**Remark** [Er85, Gus78, HKM80, Hil81a, Hil81b, HP85, Mis75, Nov85, Sip77, Tra82, eL76, eL79].  
**Remote** [Ols83, Pec81, Spe82]. **Rendering** [FFC82, Man82, UH89, Fre89e].  
**Reorganizing** [WK88, WK89]. **Repair** [Gre84, VW83]. **Reply** [Dij89a, Dei80, Sta86]. **Report** [Ano80b, BBB<sup>+</sup>81, Com83, DFG<sup>+</sup>81, DB81, Fre85a, GL83a, GWY89, MAB<sup>+</sup>81, Min81, MD84, Ral81, SR84, Sha83, DBFJ86, KSW85, LSS86, Lie86, Min85, NHSS87, TAB<sup>+</sup>85].  
**Represent** [Gar82]. **Representation** [Bal81, FK85a, Kun88, LR82a, DRS80, Sam80a]. **Representing** [GO81]. **Reprint** [Bel83b, Cod83, Den83, DV83, Dij83b, Dij83a, Ear83, Hoa83a, Hoa83b, Iro83, KC83, Mau83, Mor83b, Par83b, RT83, RSA83, SB83, Sus83, Wei83b, Wir83]. **Republic** [D'A84, WAB<sup>+</sup>88]. **Required** [IR88]. **requirement** [YBCR88]. **Requirements** [Bai89a, Gre84, MD84, WW84, RKM88].  
**Research** [Com83, Dav81, Jar88, Mar84, OL82, Rit84, BW89, Gro86, JD88, SA81, Tho86, Ree87]. **research-based** [JD88]. **Reservation** [GS84a]. **Residence** [Bec82]. **resource** [AI88, DK87, Dol88, JL82, SH85]. **resources** [BK89]. **Respond** [PSvE<sup>+</sup>89]. **Response** [BL83, Lee81, Pec83a, Guy88, Sch81, SC87]. **responsibilities** [SJ89]. **responsibility** [BW89]. **restoration** [Fre86c]. **Restraints** [Dav81]. **restricted** [NBGL89]. **Results**

[McC82, NK88, NK89, Pri84, RM83, FW86, SGJ<sup>+</sup>83]. **Retraining** [PTN88]. **Retrieval** [Bla84a, BM85c, LK84, PBC80, Gor88, LB89, NI83, SFW83, Sal86, TK89]. **Retrospective** [MR84b]. **Return** [Cha81]. **Review** [LR81, Pap85, Thi89, MR84b]. **Reviews** [Ral81, SR85, Ral81, SR82, SR85]. **Revision** [Ral81]. **revisited** [ED85, FH83, Hof80, KMP86, Men87]. **Revolution** [Fuj84, Fox89]. **Richard** [Fre86b]. **Rights** [Min81, Min82, Min89, Sha84, Min85, Min81]. **rigorous** [Smi85]. **ripen** [Cra87]. **Risk** [GL83a, BS81, KNT88]. **Robert** [Fre87a]. **Robotics** [Ber86, Hop86]. **robots** [Rai86]. **Role** [CCFJ84, FK85a, LY89, CCFJ85, Dol88]. **ROM** [Pre89a]. **Root** [Kus84]. **Rotation** [Suz82]. **RSA** [Den84]. **Rule** [DP87, HR85b]. **Rule-based** [DP87, HR85b]. **Rules** [Nor83, ST85]. **Ruling** [Lee81]. **Ruminations** [McC87b]. **run** [HW81].

**S** [BC84]. **S14** [eL79]. **S15** [eL76]. **Sachertorte** [Pap85]. **Sage** [Bel83a]. **salesman** [Lit84]. **same** [San84]. **Sample** [BF87, FB81]. **Sampling** [Vit84, AD88]. **Satisfaction** [BL83, IOB83, BOI86]. **Saturday** [MR84b]. **scale** [Men87, PW80, PW81]. **Scaling** [LS82c]. **Scan** [LCWB80]. **Scanners** [GS82]. **Scatter** [Mau68, Mau83, Mor68, Mor83b]. **Scheduler** [KL88, Gut88]. **Scheduling** [AHM83, Bro72, Hof80]. **SCHEMACODE** [Rob86]. **Schematic** [Rob86]. **Scheme** [BSTW86, Cha84, Has84, Ral81, RHC87]. **Scherr** [Fre87c]. **scholar** [Fre87e]. **scholarly** [CRD87, PZ84]. **school** [FM86, FMB88, FB89, PTN88]. **Schools** [DSB84, Tur85]. **Science** [Ben85c, BM87, CCFJ84, CM84, Com83, DM85, Dij89b, Fre88b, GT86, GMRY86, HS80a, Hop87, KWS83, MAB<sup>+</sup>81, MBD<sup>+</sup>85, McC87b, MD84, RS80, Ral84, Tra81, YRS<sup>+</sup>83, Bel89, Ber87, BM85d, CCFJ85, Che88b, Den81a, Den89, Hop86, Lev89, PTN88, SG86, TAB<sup>+</sup>85, Tur85, WAB<sup>+</sup>88]. **sciences** [BM87]. **Scientific** [AEH<sup>+</sup>89, Min81, Min82, Min89, Coc88, Min85, PZ84]. **Scientists** [Min81]. **Scrabble** [AJ88]. **scrolls** [LH85]. **Sealing** [GJ82]. **Search** [BM84, Boz84, CI84, Epp83, Gil80, MTY88, SB88, SK86, Sun90, BM85a, Coc88, Ger88, HH87, ST86]. **Searching** [BM77, Fri88, Knu73, VR82, BYG92, Ram89, TT82, WM92]. **Second** [Mul83, FM86]. **Secondary** [Bel70, Bel83b, Tur85]. **Secret** [Has84]. **secrets** [FK85b, MS81b]. **Section** [Ber86, Bro84a, CCZD84, Cla84, DS83, Den85, Knu84a, Led86, MR89, NB84, Neu84, NS84, Sle86, Wol84a, Fri85, Ham88, Sha88]. **Secure** [Den76, Den80, Ken80]. **Security** [Cha85, GJ82, WKP80, Bot86, MH81, Sal88]. **segmented** [Tur82]. **SEI** [Gib89]. **Selected** [Dav84b, Dav86, SR85, SK87]. **Selecting** [MG85, KS86]. **Selection** [Ben85e, PKT83, RW85]. **Self** [BM84, Ben87b, Bic89, Gou82, Gup84, Gut88, HS80a, HH87, Lan86, Mun88, SB86, Weg81, Wei82b, Wei83a, Wei87b, WC84, BM85a, DLA85, DLA85]. **Self-Assessment** [Gou82, Gup84, HS80a, Weg81, Wei82b, Wei83a, WC84, Bic89, Lan86, Mun88, SB86, Wei87b, DLA85, DLA85]. **Self-Describing** [Ben87b]. **Self-Organizing** [BM84, HH87, BM85a]. **Self-timing** [Gut88]. **Semantic** [SC82]. **Semantics** [DvH66, DV83]. **Semaphores** [DDB81]. **Semiring** [Fle80]. **Sensitive** [Gis81]. **Sentences** [SC82]. **Sequence** [CM81]. **sequences** [Koo86, LB89]. **Sequential** [BM84, Hoa78b, Hoa78a, Hoa83b, IR88, Lev82, SB60, SB83, SC80, VR82, BM85a]. **Serious** [Sha84]. **Servers** [MD82]. **Services** [Fox88, Luc84, Eck80, Men85, SS86a]. **Set** [Bro88, Den68, Den83, HSS89, McC82, CK86, Jon86, MS81a, Pat85]. **SETI**

- [CLO85]. **seven** [Hal88]. **Shaded** [Whi80]. **Shafer** [Yen89]. **shape** [CF80]. **Share** [KL88]. **Shared** [CGM83, Cod70, Cod83, Bar80, RT86]. **shared-memory** [RT86]. **Sharing** [Fre87c, LLTvdL82, OO80, RT74, RT83, MGT<sup>+</sup>87, MS81b]. **Shift** [FT83]. **shifts** [VVG85]. **Shore** [Pap85]. **Shortest** [CM82]. **Should** [DSK84, DSB84, Sam89a]. **Shuffle** [Gis81]. **Shuttle** [Car84, SG84a, GS84b, MR84a]. **sieve** [Luo89, Pri81a, Pri81b]. **Signal** [CLO85]. **Signatures** [Boo81, Den84, RSA78, RSA83, TT82]. **signing** [EGL85]. **SIGOPS** [NHSS87]. **Simple** [Cic80a, Ken83, Lam89, WOS83, SW85]. **Simplex** [McC82, MTY88]. **Simulated** [GCH83, CA88]. **Simulating** [Dix89]. **Simulation** [Bro88, CM81, Ore81, Sch83a, BS81, BHP81, DS81b, Kel85, MS81a, Nan81, ON85, SA81, Sch81, SC87, Ste89b]. **Simulations** [Lub89, HL81, HW81]. **simultaneous** [JL82]. **single** [Smi88]. **Site** [Bel83a]. **sixth** [Dav86]. **Size** [Dod82, DT87, MG89, San84]. **Skeletal** [TKM<sup>+</sup>89]. **Skeletal-Plan** [TKM<sup>+</sup>89]. **Skill** [Maz80]. **Sleator** [RHC87]. **Slices** [Wei82a]. **Small** [NY85, OO80, BAC85, Nas85]. **Snowbird** [DFG<sup>+</sup>81, GWY89, TAB<sup>+</sup>85]. **Social** [Mow81, SJ89]. **Society** [MD84]. **Software** [AHM83, ASZ84, BP84, Ber84, Boz84, Car84, CY80, Eis83, Eva82, GH88, Gid84, Gla80, GGW80, Gom84, Gom86, Gou82, Gra84, GK82, HS80a, How82, JY89, KST<sup>+</sup>86, Kem87a, LY89, LS81, MR84a, MKNS87, MM84, MW83, Par83b, Par85, Rit84, San89b, Wat82, YL89, Yoc89, AHM89, BGN86, CKI88, DG87, Fre85b, Gib89, GS89, GL84, Ham88, Kem87b, Lie86, MT88, NN89, Par72, RW85, Sam89a, San89a, Wey88, Zav84]. **software-development** [Fre85b]. **Solid** [PB80, Til84]. **Solids** [LR82b, LR82a]. **Solomon** [MS81b]. **Solution** [Dij65, Dij83a, Ell60, GL83b, Nov85, Pea82, Efe87, LL83, Lit84]. **solutions** [Cla81]. **Solvability** [BF83]. **solve** [BH89]. **Solving** [VD83, SFB<sup>+</sup>87]. **Some** [Den81b, GK82, Jal84, Kah83, OL82, Pri84, VW83, CLC82, Koo86]. **Songs** [Knu84a, Knu84b]. **Sort** [Ben84g]. **Sorted** [CK80]. **Sorting** [AV88, CK80, Knu73, Wai84, Mer85, Wai85]. **Source** [Abr89]. **sources** [YHW<sup>+</sup>89]. **Soviet** [MG86]. **Space** [Ben84i, NS84, Nix81, SG84a, Cou85, FH89, Ols83, SW86b, Car84, GS84b, MR84a]. **Spacecraft** [TTH<sup>+</sup>84]. **Spanish** [Mañ87]. **SPARC** [Pre89b]. **Sparse** [Gus78, HKM80, McN71, Sip77, GO81]. **Special** [Ber86, Bro84a, CCZD84, Cla84, DSB84, DS83, DB81, Den85, Fre86e, Fri85, Knu84a, Led86, MR89, NB84, Neu84, NS84, PRT84, PRT85, SR84, Sha88, Sle86, SW88, Wol84a, Ham88]. **Special-Purpose** [PRT84, PRT85]. **Specific** [Wil83b]. **Specification** [Dav88, Hou80, Par83b, SB82, WKP80, ON85, Par72]. **Specifications** [Bai89a, Jac83]. **Specifying** [CW89, Lam89, OB88]. **spectral** [HW81, Tez87]. **speech** [BCDM89, BRRH85, YHW<sup>+</sup>89]. **Speed** [Hal89b, Hal89a]. **Speeding** [AC83]. **Spelling** [Ben85a, Dun81, DLS83, Mil81, MF82, Pet80, Pet81, RS81, PZ84]. **Splay** [Jon88]. **Spreadsheet** [LCJ86, RPL89]. **Squared** [HP67, HP85, eL76, DS81b]. **squares** [Man85]. **Squeezing** [Ben84i]. **SSTF** [Hof80]. **St.** [Eck80]. **Stack** [KL83, Sil83]. **stacks** [YM86]. **Stage** [BDDG84, KK84]. **Stages** [Moz82, HMM88]. **Staging** [Sil83]. **Stalking** [Sto88a]. **Standard** [Bur83, EASC89, TTH<sup>+</sup>84, JK87, LS82c]. **Standardization** [Ske82]. **Standards** [Lee81]. **State** [Gil82, PB80, Guy88, Kel85, Nan81].

**Statements** [BM83]. **static** [MP85].  
**Statistical** [BL80, KS84, KS85, KC73, BS81, KC83, NMF87]. **Statistics** [OO80, FW86].  
**Statue** [Fre86c]. **Status** [Com83, Lie86].  
**steady** [Kel85]. **steady-state** [Kel85].  
**steering** [DT87, MG85]. **Stepwise**  
 [Wir71, Wir83, Rey87]. **Steve** [DF89].  
**Sticker** [Ben85c]. **Stochastic**  
 [FFC82, Lou83, Man82]. **Storage**  
 [Bec82, DG82, Fuj84, Mau68, Mau83, Mor68,  
 Mor83b, Sil83, OA85]. **Store** [Nix81].  
**Storing** [JC85, SI86]. **Story** [Ano89].  
**straight** [O'R81]. **Strategic**  
 [Abr88, Ste85a, Ste85b, Par85]. **Strategies**  
 [SBE83, NMF87]. **Street** [RS89]. **Stress**  
 [INW83]. **String** [BM77, TT82]. **strings**  
 [KMP77]. **Strip** [Bal81]. **Structure**  
 [Dij83b, Par83a, Rob81, Ros81, SI86, Shn82a,  
 Tur80, YS83, DP87, Dij68, Ebe87, GS89,  
 GP86, LWS87, Lim82, OSS80].  
**structure-based** [DP87]. **Structured**  
 [FFGL88, Tur84, VW86, Dol88, San89a,  
 WB85]. **Structures** [Ben83c, Kes83, Mad84,  
 Man81, Sus63, Sus83, Vui80, BI87, Cou85,  
 Gil87, GT83, Rau85, Sam85]. **Structuring**  
 [HT85]. **Student**  
 [Hil81a, Hil81b, eL79, Hil70a, Hil70b].  
**Students** [Gei84, KWS83]. **Studies**  
 [Öre81, SC88]. **Study**  
 [BBB<sup>+</sup>81, BF83, BDM81, BBK82, CHH88,  
 Cha84, DW83, DB81, DG82, Epp83, KC73,  
 LGH83, Mow81, SGJ<sup>+</sup>83, SBE83, SG84b,  
 VW83, Wei66, Wei83b, BOI86, CKI88,  
 GKB86, GS87a, Gui85, KC83, Lam88].  
**Studying** [Bro80]. **Style**  
 [O'D82, BM85b, HC86, RS86]. **Sub** [GH89a].  
**Subiteration** [GH89b]. **Subject** [Ano80a].  
**sublinear** [Pri81a, Pri81b]. **Subregion**  
 [Kun88]. **subsequences** [Koo86]. **subset**  
 [RSS88, LS82c]. **Substring** [Har71, Sun90].  
**Success** [CM84, KWS83, RH88]. **Sued**  
 [Sam89b]. **Sufficiency** [NY85]. **summarize**  
 [FW86]. **Summary**  
 [FM86, MMP84, DBFJ86]. **super** [GO81].  
**super-sparse** [GO81]. **Supercomputers**  
 [Dal84, Hay84, PW86]. **Superfluity** [DG82].  
**Supermarkets** [GS82]. **Support**  
 [HM84, MR89, Med84, Sto81, Ahi87, AG85,  
 DDM86, SFB<sup>+</sup>87]. **Supporting** [MKNS87].  
**Surface** [UH89, SC87]. **Surfaces**  
 [CHH88, LCWB80]. **Survey** [Mor83c, FM86,  
 FMB88, FB89, Gri86, Gri87, GM88, GM89].  
**Sutherland** [Fre89c]. **Sweep** [NP82].  
**Switching** [MB76, MB83, GG85b]. **symbol**  
 [SW85]. **symbol-manipulation** [SW85].  
**Symbolic** [Wol84b, Wol85].  
**synchronisation** [BHP81].  
**Synchronization** [FP88]. **Synonym**  
 [QCH<sup>+</sup>81]. **Syntax** [Iro61, Iro83, TR81].  
**Syntax-directed** [TR81]. **Synthesis**  
 [Sri83]. **Synthesizer** [TR81]. **Synthetic**  
 [Wei84]. **System** [AMY88, BHK<sup>+</sup>80, BL83,  
 BC84, Bic82, BM85c, DW83, Dav88, Dem81,  
 Dij83b, FR84, GS89, GS84b, GS84a, GNS88,  
 HSS80, HT81, IL84, JH83, KD80, Lin80,  
 MR84a, MMP84, Med84, RDH<sup>+</sup>80, RT74,  
 RT83, SR82, Shn82b, SG84a, SK86, Sto81,  
 Wad84, WK88, ACHL88, BBLP86, BOI86,  
 BH89, Bor87, Che88a, Cor85, Cou88, CM88,  
 Dij68, DK87, Dol88, FLGD87, GS87a,  
 GG85b, GBL<sup>+</sup>87, Guy88, HP86, Lau85a,  
 MB89a, MBA87, Mil85, OSS80, Pec81,  
 Rey87, RS89, SH85, WK89, WB85, Car84,  
 CAB<sup>+</sup>81, GBL<sup>+</sup>87, SG84b]. **system/360**  
 [GS87a, SG84b]. **Systemic** [She87, AG85].  
**Systems** [Ala84, BBK82, Bla84b, CMN80,  
 Com80, Dav84a, DS83, FP88, Fed81, Fin84,  
 Gal88, Gom84, Han83, HT85, Hil88, Hou84,  
 INW83, Kea82, Kee81, KK84, KS84, KS85,  
 KI84, KC73, Lam89, LWSS80, LLTvdL82,  
 MK85, MC83, Nun81, NCD82, Oli83,  
 Pec83b, PL80, Rob81, San85, She87, Sto88b,  
 VD83, Wei84, WK88, Ahi87, BOBS89,  
 BMS86, Bot86, CM87, CN82, Cha85,  
 CRD87, CKI88, Dav86, Fri85, GP86, Gom86,  
 Hal88, HR85b, HK89, IHS86, Kle85, KC83,  
 Lau86, MGT<sup>+</sup>87, NS87a, NS87b, NBL<sup>+</sup>88,  
 Par85, RRHD88, Sal86, Sha88, SK87, WK89,

YHW<sup>+</sup>89, Dav84b, Gin83]. **Systolic** [SCL87].

**T1000** [Pre89b]. **table** [AD88, Sar88]. **table-free** [AD88]. **Tables** [Lar88, Lew82, Mae80, NY85, SC80, Sri83, MP85, Smi85]. **Tablet** [MOR<sup>+</sup>88]. **Taking** [Van87]. **tale** [Fre87d]. **Talking** [WAC84]. **tallying** [Sal88]. **Tarjan** [RHC87, Fre87a]. **Task** [MD84, KSW85]. **Tasks** [Man81]. **Taulbee** [Gri86, Gri87, GM88, GM89]. **Tax** [DSB84]. **taxonomy** [CK89, Mer85]. **tea** [GS87b]. **tea-leaf** [GS87b]. **teach** [PTN88]. **teacher** [Tur85]. **Teachers** [RME84, PTN88]. **Teaching** [Dij89b, Sle86, Den89, Gib89, Wel82]. **Team** [Man81]. **Teching** [Gei84]. **Technical** [Ano86a, Ano86b, Ano86c, Ano86d, Ano86e, Ano86f, BL80, Cic80b, Den80, JO80, Ken80, Lam81, MK80]. **Technique** [Bec82, Dod82, Par83b, Wat82, ZT89, AD82, DZ89, NMF87, Par72]. **Techniques** [Ben84a, Ben84d, Dav88, Mor68, Mor83b, Pec82, Pec83a, Sch83b, Sil83, Bot86, Gil87, Gui85, JM89, YBCR88]. **technological** [BG86]. **Technologies** [SW89, Fre89d]. **Technology** [Dix89, Rip89, Tur84, Cla88, Fre85a, Web88]. **Temporal** [All83, TKM<sup>+</sup>89]. **Term** [Smi81]. **terminal** [GL84, Mor83a]. **Terms** [LGH83]. **Test** [Har71, GBL<sup>+</sup>87, Tez87, Wey88]. **Testimony** [DPNW84]. **Testing** [Cha82, GH88, Gla80, Hou80, SC80, Wat82, Ham88, Man85, MB89b]. **Tests** [OB88, SD86]. **Text** [Bem83, BM85c, Fra80, LGH83, RM83, SB88, Sam82, SK86, Thi89, BYG92, CRD87, Gut85, Leb88, PZ84, Ram89, Sal86, TT82, WM92]. **Text-Editing** [LGH83]. **text-retrieval** [Sal86]. **Thanks** [Ben85f]. **their** [GT83]. **Theorems** [Har80]. **Theoretical** [GB88, Lau84, PRT84, Wol84a, Lau85b, PRT85]. **Theory** [BDDG84, Ken83, Tuc84, Val84, Ahi87, GG85b, Hua82]. **think**

[GL85, MDV86]. **Thinning** [GH89a, GH89b, Hal89b, Hal89a, LW86, ZS84, HSCP87, Kwo88]. **Third** [Gin83]. **Thought** [Ive80]. **Thoughts** [Pre89a]. **thousands** [Lit84]. **Threat** [Sha84]. **Three** [Bro84a, Gin83, LS82a]. **TID** [SI86]. **Time** [AA80, BL83, Bec82, Bla89, CMN80, CF83, Dwy81a, FP88, Fre87c, Gla80, Gom84, Ing81, LH83, LLTvdL82, OO80, PS83, RT74, RT83, Sag85, CDV<sup>+</sup>86, Cou85, Gom86, Guy88, KK88, Nan81, NS87a, NS87b, NI83, Ols83, San89a, SW86b, VVG85, YSB<sup>+</sup>89]. **Time-Sharing** [Fre87c, LLTvdL82, RT74, RT83]. **Timestamps** [DS81a]. **timing** [Gut88]. **Today** [MBD<sup>+</sup>85]. **together** [Fre86a]. **Too** [Wic84]. **Tool** [Ive80, TvSKS83, Ahi87, MB89a, SK88, Wel82]. **Tools** [CHH88, MJ89, FH89, HR85a, RKM88, VW86]. **Toshiba** [Pre89b]. **Tracing** [Hec88]. **track** [Ste89a]. **tracker** [Fre87d]. **Trade** [Ben85g, Lee81]. **Trademarks** [LY89]. **Tradeoffs** [AA80]. **Trail** [KvE84]. **Training** [CC84]. **transaction** [Cha85]. **Transactions** [LS82b, VJW87]. **Transfer** [AA80, Zak83]. **Transform** [Sam83]. **Transient** [Kel85]. **Translation** [SB60, SB83, SI86, Tuc84, DZ89]. **Transparencies** [Bem83]. **Transporting** [JH83]. **traveling** [Lit84]. **Tree** [CI84, SW86b, Sus63, Sus83, Ger88, LL83, PC89]. **Trees** [Bal81, Epp83, Gon83, Gup84, Jon88, Lee80, LP80, Sam80b, ST86, DF84]. **Trends** [CS80a, GMRY86, Ste82]. **Tribute** [Aue80]. **Tricks** [Ben85g]. **Triform** [Cro81]. **Trip** [Bel83a, Sha83]. **Trust** [Tho84, Whe09]. **Trusting** [Tho84, Whe09]. **truth** [Fil88]. **Tuning** [Ben84e]. **Turing** [Fre87a, Pel88, Coc88, HC88]. **Turnover** [Bar83]. **Tutorial** [Bel83c]. **tutoring** [AS86]. **TWA** [GS84a]. **tweezers** [RE89]. **Two** [GMRY86, GH89a, GH89b, MD82, Pec83b, Shn82a, ZT89, BHP81, Fre86d, Sam80b]. **Two-Dimensional** [ZT89, Sam80b].

- two-list** [BHP81]. **Two-Sub-Iteration** [GH89a]. **Two-Subiteration** [GH89b]. **Type** [KV83]. **Types** [BG84, BG87]. **Typesetting** [BK86b]. **Typewriter** [GCH83]. **typing** [Pet86].
- U.S.** [Fed81, Goo82]. **UC** [WAC84]. **UCLA** [FM86, FMB88, FB89, WKP80]. **ugly** [RS89]. **Uncertainty** [Gid84]. **Undebuggability** [Che88b]. **Undergraduate** [NCD82]. **Understanding** [DDM86]. **undetected** [Pet86]. **Uniformly** [Ros81]. **Unifying** [Vui80]. **Unionization** [Ste82]. **Units** [EDF84, EDF87]. **Universities** [Dal84]. **University** [KV83, OO80]. **University-Type** [KV83]. **UNIX** [FH89, JH83, JAV86, Jon84, NB84, RT74, RT83, RW87, WAC84, WKP80]. **UNIX-Like** [Jon84]. **Unmathematical** [RS80]. **Unsafe** [Hin84]. **Untraceable** [Cha81]. **Update** [Dwy81a, HS87, Lev82, ST85, Ste84]. **Updates** [Ben84k]. **Updating** [Hin84, Ing81]. **Usability** [Dem81, Goo87, GL85]. **usable** [YHW<sup>+</sup>89]. **usage** [BOI86, CK86, FM86, FMB88, FB89]. **Use** [And84, Cla81, SGJ<sup>+</sup>83, Sus63, Sus83, Wei82a, Fin85, IHS86, Leb88]. **used** [DZ89]. **User** [BB81, CMN80, CC84, CK89, DW83, DC83, Dwy81b, Eis83, FR84, Has84, HT81, IOB83, KK88, MB81, Moz82, RW85, RF83, BOI86, Bas85, DLS83, GWWJ84, Gru89, HMM88, KS89, RH88, RKM88, Sam89a, SK88, TWBK89]. **user-derived** [GWWJ84]. **User-Friendly** [Dwy81b, Eis83]. **User-Led** [FR84]. **User-oriented** [RW85]. **users** [CK89, MBA87, RR86]. **Using** [Boo81, Dod82, FH89, Jac83, KD80, Lee80, LL87a, Man88, Pec82, PBC80, RS89, TDP89, Wel82, BPR88, HH87, MP85, NI83, Rey87, ST86]. **Utility** [Thi89].
- V** [RHC87, Che88a]. **Vadimus** [Tra81]. **Validation** [Has84, Kem87a, BS81, Kem87b]. **Value** [BH84, Goo82]. **values** [GO81]. **variable** [DF84]. **variable-length** [DF84]. **Variate** [KS88, CF80, Hor83]. **variates** [AD82, FH83]. **Variations** [RW87]. **VDT** [SGJ<sup>+</sup>83]. **VDU** [San85]. **Vector** [Pet83]. **Verification** [DR89, Pat81, PPC<sup>+</sup>89, WKP80, Fet88]. **Versatile** [PV81, Ebe87]. **Version** [SR82]. **Versus** [RAV83, UH89, DP87, Zav84]. **Vertices** [Bré79, Fle80]. **Very** [MHWF89, PPC<sup>+</sup>89, Sun90, Fet88, Nas85]. **via** [CM81, DG87, Sar88]. **Vice** [Fra86]. **Vice-president** [Fra86]. **Video** [Dix89, Fox89, MD89, Ste89b]. **View** [Neu84, AG85, Coh88, Mil85]. **viewing** [WB85]. **Viewpoint** [Bor86, McC87b]. **VII** [HS80a]. **VIII** [Weg81]. **Violated** [Min81, Min82, Min85]. **Virtual** [CFH<sup>+</sup>80, HSS80, MD89, Wad84, GL84]. **Viruses** [Gem89, Sam89b]. **Visibility** [Mad84]. **Visit** [D'A84]. **Visual** [Har88, SDP84, SDP87]. **Visualizing** [Fre88b]. **visually** [GL84]. **VLSI** [AA80]. **vocabulary** [FLGD87]. **Volume** [Ano80c, Fre89e, LR82b, LR82a, UH89]. **vote** [Sal88]. **vote-tallying** [Sal88]. **vs** [Hof80, Jal84].
- W** [McC80, MK80]. **Wall** [Kun88, RS89]. **Walsh** [Tez87]. **Walsh-spectral** [Tez87]. **WAM** [ACHS88]. **war** [BW89, Bor87]. **Washington** [BBB<sup>+</sup>81, Ste86m, Ste86n, Ste86o, Ste86p]. **Waste** [Kus84]. **Waving** [VR89]. **Way** [Gar82, Lic83, Nix81, FW86]. **Weapon** [IL84]. **WEB** [VR89, BKM86]. **Wei** [RHC87]. **Weighted** [Bro84b]. **Weights** [Lou83]. **Wheels** [CC84]. **where** [BW89]. **Whose** [Min81, Min82, Min85]. **William** [Aue80]. **wily** [Sto88a]. **windows** [FG89]. **Wisconsin** [SGJ<sup>+</sup>83]. **wisdoms** [SS86b]. **within** [MTY88]. **Without** [JC85, Cha85]. **wits** [See89]. **Wolf** [Gau82]. **Word**

[Mañ87, Bec87]. **Words** [VHG87, BKM86].  
**Work** [Tur84, KDK89, LH86, Ols83].  
**work-life** [KDK89]. **workers** [Lad89].  
**Working** [Den68, Den83]. **workplace**  
 [Bai89b]. **Workshop** [ASZ84, NHSS87].  
**Workspace** [Lee80]. **workstation** [HP86].  
**World** [Gla80, McC82, Ano84b, AJ88].  
**worlds** [Fil88]. **Worm**  
 [Ano89, SH82, Spa89, EGH<sup>+</sup>89, RE89].  
**Writing** [Ben83d, HH88]. **Wyk** [Den87a].

**X** [Gou82]. **XCON** [BOBS89].  
**xerographics** [SJM<sup>+</sup>87]. **XI** [Wei83a]. **XII**  
 [WC84]. **XIII** [Gup84]. **XIV** [DLA85]. **XIX** [Abr84].  
**XV** [SB86]. **XVI** [Lan86]. **XVII**  
 [Wei87b]. **XVIII** [Mun88].

**year** [BM87, MOR<sup>+</sup>88]. **Years**  
 [Fec87, Alt87, Coc87, Kow88, Rev87, Wei87a].

**Z** [Er85, Mis75]. **Zadeh** [Ano84b]. [Abr86a]

## References

**Abelson:1980:ITA**

[AA80] Harold Abelson and Peter Andrae. Information transfer and area-time tradeoffs for VLSI multiplication. *Communications of the ACM*, 23(1):20–23, January 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Abr86b]

**Abbott:1983:PDI**

[Abb83] Russel J. Abbott. Program design by informal English descriptions. *Communications of the ACM*, 26(11):882–894, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Abr86c]

**Abbott:1987:KA**

[Abb87] Russell J. Abbott. Knowledge abstraction. *Communications of the ACM*, 30(8):664–671, August 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/27652.html>.

**Abrams:1984:EI**

P. Abrams. Electronic islands. *Communications of the ACM*, 26(4):241–242, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Abrahams:1986:PLa**

Paul Abrahams. President's letter. *Communications of the ACM*, 29(8):707–708, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Abrahams:1986:PLb**

Paul Abrahams. President's letter. *Communications of the ACM*, 29(9):827–828, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Abrahams:1986:PLc**

Paul Abrahams. President's letter. *Communications of the ACM*, 29(12):1129–1130, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).



**Abrahams:1988:SDI**

- [Abr88] Paul Abrahams. The strategic defense initiative — President's letter. *Communications of the ACM*, 31(6):628–629, 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Abrahamson:1989:ADS**

- [Abr89] David M. Abrahamson. An adaptive dependency source model for data compression. *Communications of the ACM*, 32(1):77–83, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63243.html>.

**Asai:1983:SOM**

- [AC83] Hitohisa Asai and C. K. Cheng. Speeding up an overrelaxation method of division in radix-2<sup>n</sup> machine. *Communications of the ACM*, 26(3):216–220, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Archer:1988:CEM**

- [ACHL88] N. P. Archer, M. W. L. Chan, S. J. Huang, and R. T. Liu. A Chinese-English microcomputer system. *Communications of the ACM*, 31(8):977–982, August 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63033.html>.

**Appleby:1988:GCP**

- [ACHS88] K. Appleby, M. Carllson, S. Haridi, and D. Sawhlin. Garbage collection for Prolog based on WAM. *Communications of the ACM*, 31(6):719–741, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62968.html>.

**Ahrens:1982:GGV**

- [AD82] J. H. Ahrens and U. Dieter. Generating Gamma variates by a modified rejection technique. *Communications of the ACM*, 25(1):47–54, January 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ahrens:1988:ETF**

- [AD88] Joachim H. Ahrens and Ulrich Dieter. Efficient table-free sampling methods for the exponential, Cauchy, and normal distributions. *Communications of the ACM*, 31(11):1330–1337, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50094.html>.

**Abelson:1989:ISC**

- [AEH<sup>+</sup>89] Harold Abelson, Michael Eisenberg, Matthew Halfant, Jacob Katzenelson, Elisha Sacks, Gerald J. Sussman, Jack Wisdom, and Kenneth Yip. Intelligence in scientific computing. *Communications of the ACM*, 32

- (5):546–562, May 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63486.html>.
- Ariav:1985:DDS**
- [AG85] Gad Ariav and Michael J. Ginzberg. DSS design: a systemic view of decision support. *Communications of the ACM*, 28(10):1045–1052, October 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4374.html>.
- Ahituv:1987:MIF**
- [Ahi87] Niv Ahituv. A metamodel of information flow: a tool to support information systems theory. *Communications of the ACM*, 30(9):781–791, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30405.html>.
- Abdel-Hamid:1983:DSP**
- [AHM83] Tarek K. Abdel-Hamid and Stuart E. Madnick. The dynamics of software project scheduling. *Communications of the ACM*, 26(5):340–346, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Abdel-Hamid:1989:LLM**
- [AHM89] Tarek K. Abdel-Hamid and Stuart E. Madnick. Lessons learned from modeling the dynamics of software development. *Communications of the ACM*, 32(12):1426–1438, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/76383.html>.
- Ahituv:1988:MPE**
- [AI88] Niv Ahituv and Magid Igbaria. A model for predicting and evaluating computer resource consumption. *Communications of the ACM*, 31(12):1467–1473, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/53585.html>.
- Appel:1988:WFS**
- [AJ88] Andrew W. Appel and Guy J. Jacobson. The world’s fastest Scrabble program. *Communications of the ACM*, 31(5):572–578, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42420.html>.
- Alavi:1984:APA**
- [Ala84] M. Alavi. An assessment of the prototyping approach to information systems development. *Communications of the ACM*, 27(6):556–563, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- Allen:1983:MKA**
- [All83] J. F. Allen. Maintaining knowledge about temporal intervals. *Communications of the ACM*, 26(11):832–843, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Ahituv:1987:PED**
- [ALN87] Niv Ahituv, Yeheskel Lapid, and Seev Neumann. Processing encrypted data. *Communications of the ACM*, 30(9):777–780, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30404.html>.
- Alt:1987:FYA**
- [Alt87] Franz L. Alt. Fifteen years ACM. *Communications of the ACM*, 30(10):850–857, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30417.html>.
- Akscyn:1988:KDH**
- [AMY88] Robert M. Akscyn, Donald L. McCracken, and Elise A. Yoder. KMS: a distributed hypermedia system for managing knowledge in organizations. *Communications of the ACM*, 31(7):820–835, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48513.html>.
- Andrews:1981:PPP**
- [And81] G. R. Andrews. Parallel programs: Proofs, principles, and practice. *Communications of the ACM*, 24(3):140–146, March 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Anderson:1984:CUF**
- [And84] G. E. Anderson. The coordinated use of five performance evaluation methodologies. *Communications of the ACM*, 27(2):119–125, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Anonymous:1980:ISA**
- [Ano80a] Anonymous. 1980 index by subject to algorithms. *Communications of the ACM*, 23(12):722, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Anonymous:1980:CLC**
- [Ano80b] Anonymous. Correction: List of contributors to the CS Report [Comm. ACM, March 1979]. *Communications of the ACM*, 23(1):40, January 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Anonymous:1980:ICA**
- [Ano80c] Anonymous. Index to Communications of the ACM, volume 23, 1980. *Communications of the*

- ACM*, 23(12):723–727, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano84a] **Anonymous:1984:CGC** Anonymous. Computer graphics comes of age, an interview with Andries van Dam. *Communications of the ACM*, 27(7):638–648, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano84b] **Anonymous:1984:CIR** Anonymous. Coping with the imprecision of the real world. an interview with Lotfi A. Zadeh. *Communications of the ACM*, 27(4):304–311, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano86a] **Anonymous:1986:TCa** Anonymous. Technical correspondence. *Communications of the ACM*, 29(1):58–59, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano86b] **Anonymous:1986:TCb** Anonymous. Technical correspondence. *Communications of the ACM*, 29(4):331–335, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano86c] **Anonymous:1986:TCc** Anonymous. Technical correspondence. *Communications of the ACM*, 29(6):556–558, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano86d] **Anonymous:1986:TCd** Anonymous. Technical correspondence. *Communications of the ACM*, 29(7):680–682, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano86e] **Anonymous:1986:TCe** Anonymous. Technical correspondence. *Communications of the ACM*, 29(10):1001–1005, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano86f] **Anonymous:1986:TCf** Anonymous. Technical correspondence. *Communications of the ACM*, 29(12):1240–1242, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ano89] **Anonymous:1989:WS** Anonymous. The worm story. *Communications of the ACM*, 32(6):677, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [AR84] **Attewell:1984:COW** Paul Attewell and James Rule. Computing and organizations: What we know and what we don't know. *Communications of the ACM*, 27(12):1184–1192, 1984. CODEN CACMA2. ISSN

- 0001-0782 (print), 1557-7317 (electronic). **Asai:1980:ONI**
- [Arn84] W. David Arnett. Computational astrophysics. *Communications of the ACM*, 28(4):354–357, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). **Arnett:1984:CA** [Asa80] Hitohisa Asai. An overrelaxation for a numerical inverse of a constant. *Communications of the ACM*, 23(9):503–510, September 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Arn85] W. D. Arnett. Computational astrophysics. *Communications of the ACM*, 28(4):354–357, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3342.html>. **Arnett:1985:CA** [Ash81] William L. Ash. Mxec: Parallel processing with an advanced macro facility. *Communications of the ACM*, 24(8):502–509, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [AS86] J. R. Anderson and E. Skwarecki. The automated tutoring of introductory computer programming. *Communications of the ACM*, 29(9):842–849, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6593.html>. **Ashenhurst:1984:CIL** [Ash84] Robert L. Ashenhurst. A conference on information law and ethics. *Communications of the ACM*, 27(10):1006–1007, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [AS87] Ulises Agüero and Subrata Sengupta. A plausibility-driven approach to computer architecture design. *Communications of the ACM*, 30(11):922–932, November 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32208.html>. **Aguero:1987:PDA** [Ash86a] Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(2):87–90, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). **Ashenhurst:1986:AFa**
- [Ash86b] Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(3):173, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). **Ashenhurst:1986:AFb**

- [Ash86c] **Ashenhurst:1986:AFc**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(4):260–265, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86d] **Ashenhurst:1986:AFd**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(5):362, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86e] **Ashenhurst:1986:AFe**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(6):468–469, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86f] **Ashenhurst:1986:AFf**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(7):586–592, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86g] **Ashenhurst:1986:AFg**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(8):709–710, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86h] **Ashenhurst:1986:AFh**  
 Robert L. Ashenhurst. ACM Forum. *Communications of the ACM*, 29(9):829–831, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86i] **Ashenhurst:1986:AFi**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(10):928–931, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86j] **Ashenhurst:1986:AFj**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(11):1027–1030, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash86k] **Ashenhurst:1986:AFk**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 29(12):1151–1154, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ash89] **Ashenhurst:1989:AF**  
 Robert L. Ashenhurst. ACM forum. *Communications of the ACM*, 32(3):287–ff., March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [ASSS86] **Atkinson:1986:MMH**  
 M. D. Atkinson, J.-R. Sack, B. Santoro, and T. Strothotte. Min-max heaps and generalized priority queues. *Communications of the ACM*, 29(10):

996–1000, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6621.html>.

**Arnold:1984:SMW**

- [ASZ84] Robert S. Arnold, Norman F. Schneidewind, and Nicholas Zvegintzov. A software maintenance workshop. *Communications of the ACM*, 27(11):1120–1121, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Auerbach:1980:TJW**

- [Aue80] Isaac L. Auerbach. A tribute to John William Mauchly. *Communications of the ACM*, 23(3):144–??, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Aggarwal:1988:IOC**

- [AV88] Alok Aggarwal and Jeffrey Scott Vitter. The input/output complexity of sorting and related problems. *Communications of the ACM*, 31(9):1116–1127, September 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48535.html>.

**Beidler:1985:CPS**

- [BAC85] John Beidler, Richard H. Austing, and Lillian N. Cassel. Computing programs in small colleges. *Communications of the*

*ACM*, 28(6):605–611, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214933.html>.

**Bailin:1989:OOR**

- [Bai89a] Sidney C. Bailin. An object-oriented requirements specifications method. *Communications of the ACM*, 32(5):608–623, May 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63491.html>.

**Bailyn:1989:TPW**

- [Bai89b] L. Bailyn. Toward the perfect workplace? *Communications of the ACM*, 32(4):460–471, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63338.html>.

**Ballard:1981:STH**

- [Bal81] Dana H. Ballard. Strip trees, a hierarchical representation for curves. *Communications of the ACM*, 24(5):310–321, May 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bard:1980:MSD**

- [Bar80] Y. Bard. A model of shared DASD and multipathing. *Communications of the ACM*, 23(10):564–572, October 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [Bar83] **Bartol:1983:TAD**  
Kathryn M. Bartol. Turnover among DP personnel: a causal analysis. *Communications of the ACM*, 26(10):807–811, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bas85] **Bass:1985:GUI**  
Leonard J. Bass. A generalized user interface for applications programs (II). *Communications of the ACM*, 28(6):617–627, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3816.html>.
- [BB81] **Bass:1981:GUI**  
Leonard J. Bass and Ralph E. Bunker. A generalized user interface for applications programs. *Communications of the ACM*, 24(12):796–800, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BBB<sup>+</sup>81] **Baum:1981:RPC**  
Werner A. Baum, David H. Brandin, R. Creighton Buck, George I. Davida, George Handelman, Martin E. Hellman, Ira Michael Heyman, Wilfred Kaplan, and Daniel C. Schwartz. Report of the Public Cryptography Study Group, prepared for American Council on Education, One Dupont Circle, Washington, DC 20036, February 7, 1981. *Communications of the ACM*, 24(7):435–445, July 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See the opposing view in [Dav81].
- [BBK82] **Berk:1982:HFS**  
T. Berk, L. Brownston, and A. Kaufman. A human factors study of color notation systems for computer graphics. *Communications of the ACM*, 25(8):547–550, August 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BBLP86] **Banatre:1986:DBE**  
Jean-Pierre Banâtre, Michel Banâtre, Guy Lapalme, and Florimond Ployette. The design and building of Enchère, a distributed electronic marketing system. *Communications of the ACM*, 29(1):19–29, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5467.html>.
- [BC84] **Becker:1984:DSD**  
R. A. Becker and J. M. Chambers. Design of the S system for data analysis. *Communications of the ACM*, 27(5):486–495, May 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BCDM89] **Bengio:1989:PEM**  
Y. Bengio, R. Cardin, R. De Mori, and E. Merlo. Programmable execution of multi-layered networks for automatic speech recognition. *Communications of the ACM*, 32(2):



195–199, February 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63345.html>.

**Briggs:1981:PCB**

[BD81] F. A. Briggs and M. Dubois. Performance of cache-based multiprocessors. *Communications of the ACM*, 24(??):181–190, ??? 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Benbasat:1984:CSH**

[BDDG84] Izak Benbasat, Albert S. Dexter, Donald H. Drury, and Robert C. Goldstein. A critique of the stage hypothesis: Theory and empirical evidence. *Communications of the ACM*, 27(5):476–485, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Benbasat:1981:ESH**

[BDM81] Izak Benbasat, Albert S. Dexter, and Paul S. Masulis. An experimental study of the human/computer interface. *Communications of the ACM*, 24(11):752–762, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Benbasat:1986:EPI**

[BDT86] Izak Benbasat, Albert S. Dexter, and Peter Todd. An experimental program investigating color-enhanced and graphical information presentation: an in-

tegration of the findings. *Communications of the ACM*, 29(11):1094–1105, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7545.html>.

**Beck:1982:DSA**

[Bec82] Leland L. Beck. A dynamic storage allocation technique based on memory residence time. *Communications of the ACM*, 25(10):714–724, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Becker:1987:AWP**

[Bec87] Joseph D. Becker. Arabic word processing. *Communications of the ACM*, 30(7):600–610, July 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/28570.html>.

**Bell:1968:NRD**

[Bel68] J. R. Bell. ACM Algorithm 334: Normal random deviates [G5]. *Communications of the ACM*, 11(7):498, July 1968. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [Tra82].

**Bell:1970:QQM**

[Bel70] James R. Bell. The quadratic quotient method: a hash code eliminating secondary clustering. *Communications of the ACM*, 13(2):107–109, February 1970. CO-

- DEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bel83a] Gordon Bell. The Computer Museum member's first field trip: The Northbay AN/FSQ7 Sage site. *Communications of the ACM*, 26(2):118–119, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bel83b] James R. Bell. The quadratic quotient method: a hash code eliminating secondary clustering (reprint). *Communications of the ACM*, 26(1):62–63, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Bel70].
- [Bel83c] R. Charles Bell. Monte Carlo debugging: a brief tutorial. *Communications of the ACM*, 26(2):126–127, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bel89] C. Gordon Bell. The future of high performance computers in science and engineering. *Communications of the ACM*, 32(9):1091–1101, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66457.html>.
- [Bem83] Robert W. Bemer. Coordinated text and transparencies. *Communications of the ACM*, 26(6):418–??, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben80] Jon Louis Bentley. Multidimensional divide-and-conquer. *Communications of the ACM*, 23(4):214–229, April 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). This paper contains an  $n \log(n)$  deterministic algorithm for finding nearest neighbors in two-dimensional space.
- [Ben83a] Jon Louis Bentley. Programming pearls: Aha! algorithms. *Communications of the ACM*, 26(9):623–628, September 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben83b] Jon Louis Bentley. Programming pearls: Cracking the oyster. *Communications of the ACM*, 26(8):549–552, August 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben83c] Jon Louis Bentley. Programming pearls: Data structures programs. *Communications of the ACM*, 26(10):726–730, October 1983. CODEN CACMA2.

ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1983:PPW**

- [Ben83d] Jon Louis Bentley. Programming pearls: Writing correct programs. *Communications of the ACM*, 26(12):1040–1045, December 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPAa**

- [Ben84a] J. Bentley. Programming pearls: Algorithm design techniques. *Communications of the ACM*, 27(0):865–871, September 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPAb**

- [Ben84b] J. L. Bentley. Programming pearls: About the column. *Communications of the ACM*, 27(1):12–13, January 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPPL**

- [Ben84c] Jon Louis Bentley. Programming pearls: a little program, a lot of fun. *Communications of the ACM*, 27(12):1179–1182, December 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPAc**

- [Ben84d] Jon Louis Bentley. Programming pearls: Algorithm design techniques. *Communications of the*

*ACM*, 27(9):865–871, September 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPC**

- [Ben84e] Jon Louis Bentley. Programming pearls: Code tuning. *Communications of the ACM*, 27(2):91–96, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPG**

- [Ben84f] Jon Louis Bentley. Programming pearls: Graphic output. *Communications of the ACM*, 27(6):529–536, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPH**

- [Ben84g] Jon Louis Bentley. Programming pearls: How to sort. *Communications of the ACM*, 27(4):287–291, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPP**

- [Ben84h] Jon Louis Bentley. Programming pearls: Perspective on performance. *Communications of the ACM*, 27(11):1087–1092, November 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPS**

- [Ben84i] Jon Louis Bentley. Programming pearls: Squeezing space. *Communications of the ACM*, 27

- (5):416–421, May 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben84j] Jon Louis Bentley. Programming pearls: The back of the envelope. *Communications of the ACM*, 27(3):180–184, March 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben84k] Jon Louis Bentley. Programming pearls: Updates. *Communications of the ACM*, 27(7):630–636, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben85a] Jon Louis Bentley. Programming pearls: a spelling checker. *Communications of the ACM*, 28(5):456–462, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben85b] Jon Louis Bentley. Programming pearls: Associative arrays. *Communications of the ACM*, 28(6):570–576, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben85c] Jon Louis Bentley. Programming pearls: Bumper-sticker computer science. *Communications of the ACM*, 28(9):896–901, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben85d] Jon Louis Bentley. Programming pearls: Confessions of a coder. *Communications of the ACM*, 28(7):671–679, July 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben85e] Jon Louis Bentley. Programming pearls: Selection. *Communications of the ACM*, 28(11):1121–1127, November 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben85f] Jon Louis Bentley. Programming pearls: Thanks, heaps. *Communications of the ACM*, 28(3):245–250, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben85g] Jon Louis Bentley. Programming pearls: Tricks of the trade. *Communications of the ACM*, 28(2):138–141, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ben86a] J. L. Bentley. Programming pearls: The envelope is back. *Communications of the ACM*, 29(3):176–182, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:PPB****Bentley:1985:PPC****Bentley:1984:PPU****Bentley:1985:PPSb****Bentley:1985:PPSa****Bentley:1985:PPTb****Bentley:1985:PPA****Bentley:1985:PPTa****Bentley:1985:PPB****Bentley:1986:PPE**

**Bentley:1986:PPB**

- [Ben86b] Jon Louis Bentley. Programming pearls: Birth of a cruncher. *Communications of the ACM*, 29(12):1155–1161, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1986:PPC**

- [Ben86c] Jon Louis Bentley. Programming pearls: Cutting the Gordian knot. *Communications of the ACM*, 29(2):92–96, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1986:PPD**

- [Ben86d] Jon Louis Bentley. Programming pearls: Document design. *Communications of the ACM*, 29(9):832–839, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1986:PPLc**

- [Ben86e] Jon Louis Bentley. Programming pearls: Little languages. *Communications of the ACM*, 29(8):711–721, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Description of the *pic* language.

**Bentley:1987:PPP**

- [Ben87a] J. L. Bentley. Programming pearls: Profilers. *Communications of the ACM*, 30(7):587–592, July 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1987:PPSa**

- [Ben87b] Jon Louis Bentley. Programming pearls: Self-describing data. *Communications of the ACM*, 30(6):479–483, June 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1987:PPF**

- [Ben87c] Jon Louis Bentley. Programming pearls: The Furbelow memorandum. *Communications of the ACM*, 30(12):998–999, 1010, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Berns:1984:ASM**

- [Ber84] Gerald M. Berns. Assessing software maintainability. *Communications of the ACM*, 27(1):14–23, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bernstein:1986:SSF**

- [Ber86] Herbert J. Bernstein. Special section on factory automation and robotics. *Communications of the ACM*, 29(6):484–485, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214907.html>.

**Bertziss:1987:MFC**

- [Ber87] Alfs Bertziss. A mathematically focused curriculum for computer science. *Communications of the ACM*, 30(5):356–365, May 1987.

- CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/22900.html>. [BG86]
- [BF83] R. Charles Bell and Bryan Floyd. A Monte Carlo study of Cichelli hash-function solvability. *Communications of the ACM*, 26(11):924–925, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BF87] Jon Louis Bentley and R. W. Floyd. Programming pearls: a sample of brilliance. *Communications of the ACM*, 30(9):754–757, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BFP82] Jon Louis Bentley, Mark G. Faust, and Franco P. Preparata. Approximation algorithms for convex hulls. *Communications of the ACM*, 25(1):64–68, January 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BG84] Jon Louis Bentley and David Gries (special guest oyster). Programming pearls: Abstract data types. *Communications of the ACM*, 30(4):284–290, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BG87] Jon L. Bentley and David Gries. Programming pearls: Abstract data types. *Communications of the ACM*, 30(4):284–290, April 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BGN86] Valdis Berzins, Michael Gray, and David Naumann. Abstraction-based software development. *Communications of the ACM*, 29(5):402–415, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5691.html>.
- [BH84] Y. M. Babad and J. F. Hoffer. Even no data has a value. *Communications of the ACM*, 27(8):748–756, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Baroudi:1986:ITE] Jack J. Baroudi and Michael J. Ginzberg. Impact of the technological environment on programmer/analyst job outcomes. *Communications of the ACM*, 29(6):546–555, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5953.html>.
- [Bell:1983:MCS] R. Charles Bell and Bryan Floyd. A Monte Carlo study of Cichelli hash-function solvability. *Communications of the ACM*, 26(11):924–925, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bentley:1987:PPSb] Jon Louis Bentley and R. W. Floyd. Programming pearls: a sample of brilliance. *Communications of the ACM*, 30(9):754–757, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bentley:1982:AAC] Jon Louis Bentley, Mark G. Faust, and Franco P. Preparata. Approximation algorithms for convex hulls. *Communications of the ACM*, 25(1):64–68, January 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bentley:1984:PPAd] Jon Louis Bentley and David Gries (special guest oyster). Programming pearls: Abstract data types. *Communications of the ACM*, 30(4):284–290, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bentley:1987:PPA] Jon L. Bentley and David Gries. Programming pearls: Abstract data types. *Communications of the ACM*, 30(4):284–290, April 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Berzins:1986:ABS] Valdis Berzins, Michael Gray, and David Naumann. Abstraction-based software development. *Communications of the ACM*, 29(5):402–415, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5691.html>.
- [Babad:1984:END] Y. M. Babad and J. F. Hoffer. Even no data has a value. *Communications of the ACM*, 27(8):748–756, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Berman:1989:PAI**

- [BH89] Donald H. Berman and Carole D. Hafner. The potential of artificial intelligence to help solve the crisis in our legal system. *Communications of the ACM*, 32(8):928–938, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65972.html>.

**Banno:1980:KOB**

- [BHK<sup>+</sup>80] Y. Banno, H. Hirose, Y. Karita, H. Mawatari, H. Murakami, H. Takahashi, S. Yashiro, H. Yoshiki, N. Hagiwara, and Y. Sakurai. KEKOPEN, an open batch processing system at KEK. *Communications of the ACM*, 23(7):368–378, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Blackstone:1981:TLS**

- [BHP81] John H. Blackstone, Jr., Gary L. Hogg, and Don T. Phillips. A two-list synchronisation procedure for discrete event simulation. *Communications of the ACM*, 24(12):825–829, December 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bastani:1987:EDS**

- [BI87] Farokh B. Bastani and S. Sitharama Iyengar. The effect of data structures on the logical complexity of programs. *Communications of the ACM*, 30

(3):250–259, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214760.html>.

**Bibel:1983:MM**

- [Bib83] Wolfgang Bibel. Matings in matrices. *Communications of the ACM*, 26(11):844–852, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bic:1982:PMI**

- [Bic82] Lubomir Bic. A protection model and its implementation in a dataflow system. *Communications of the ACM*, 25(9):650–658, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bickel:1987:ACM**

- [Bic87] Michael Allen Bickel. Automatic correction to misspelled names: a fourth generation approach. *Communications of the ACM*, 30(3):224–228, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214756.html>.

**Bickel:1989:SAP**

- [Bic89] R. Wenig Bickel. Self-assessment procedure XIX. *Communications of the ACM*, 32(4):472–480, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214756.html>.

[acm.org/pubs/toc/Abstracts/0001-0782/63339.html](http://acm.org/pubs/toc/Abstracts/0001-0782/63339.html).

**Billard:1981:PMA**

- [Bil81] Brian Billard. Polynomial manipulation with APL. *Communications of the ACM*, 24(7):457–465, July 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigendum [Bil82].

**Billard:1982:CPM**

- [Bil82] Brian Billard. Corrigendum: “Polynomial manipulation with APL”. *Communications of the ACM*, 25(3):213, March 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Bil81].

**Birnbaum:1985:TDM**

- [Bir85] Joel S. Birnbaum. Toward the domestication of microelectronics. *Communications of the ACM*, 28(11):1225–1235, November 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4554.html>.

**Bentley:1986:PPLa**

- [BK86a] Jon Bentley and Don Knuth. Programming pearls: literate programming. *Communications of the ACM*, 29(5):384–369, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1986:GLT**

- [BK86b] Jon Louis Bentley and Brian W. Kernighan. GRAP — a language for typesetting graphs. *Communications of the ACM*, 29(8):782–792, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6429.html>.

**Ballou:1989:MAR**

- [BK89] Donald P. Ballou and Giri Kumar.Tayi. Methodology for allocating resources for data quality enhancement. *Communications of the ACM*, 32(3):320–329, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62068.html>.

**Bentley:1986:PPLb**

- [BKM86] Jon Bentley, Donald E. Knuth, and M. Douglas McIlroy. Programming pearls: a literate program: a WEB program for common words. *Communications of the ACM*, 29(6):471–483, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL [https://dl.acm.org/ft\\_gateway.cfm?id=315653](https://dl.acm.org/ft_gateway.cfm?id=315653). See another solution to the problem of printing the  $k$  most common words of a text file in [VHG87]. Reprinted in [Knu92, 151–177].



- [BL80] **Bates:1980:TCS**  
 Doug Bates and Ronald S. Lemos. Technical correspondence: On statistical analysis. *Communications of the ACM*, 23(1):39–40, January 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BL83] **Barber:1983:SRT**  
 Raymond E. Barber and Henry C. Lucas, Jr. System response time, operator productivity, and job satisfaction. *Communications of the ACM*, 26(11):972–986, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BL89] **Banville:1989:CFM**  
 Claude Banville and Maurice Landry. Can the field of MIS be disciplined? *Communications of the ACM*, 32(1):48–60, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63241.html>.
- [Bla84a] **Blair:1984:DDD**  
 David C. Blair. The data-document distinction in information retrieval. *Communications of the ACM*, 27(4):369–374, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bla84b] **Blanning:1984:CMI**  
 Robert W. Blanning. Conversing with management information systems in natural language. *Communications of the ACM*, 27(3):201–207, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bla89] **Blank:1989:FRT**  
 Glenn D. Blank. A finite and real-time processor for natural language. *Communications of the ACM*, 32(10):1174–1189, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67935.html>.
- [BLNS82] **Birrell:1982:GED**  
 Andrew D. Birrell, Roy Levin, Roger M. Needham, and Michael D. Schroeder. Grapevine: an exercise in distributed computing. *Communications of the ACM*, 25(4):260–274, April 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BLP85] **Balkovich:1985:CHE**  
 Edward Balkovich, Steven Lerman, and Richard P. Parmelee. Computing in higher education: the Athena experience. *Communications of the ACM*, 28(11):1214–1224, November 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4553.html>.
- [BM77] **Boyer:1977:FSS**  
 Robert S. Boyer and J. Strother Moore. A fast string searching

algorithm. *Communications of the ACM*, 20(10):762–772, October 1977. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [KMP77, Sun90, BYG92].

**Bayman:1983:DBP**

- [BM83] Piraye Bayman and Richard E. Mayer. A diagnosis of beginning programmers' misconceptions of BASIC programming statements. *Communications of the ACM*, 26(9):677–679, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1984:AAS**

- [BM84] Jon Louis Bentley and Catherine C. McGeoch. Amortized analyses of self-organizing sequential search heuristics. *Communications of the ACM*, 28(4):404–411, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bentley:1985:AAS**

- [BM85a] Jon L. Bentley and Catherine C. McGeoch. Amortized analyses of self-organizing sequential search heuristics. *Communications of the ACM*, 28(4):404–411, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3349.html>.

**Berry:1985:SAC**

- [BM85b] R. E. Berry and B. A. E. Meekings. A style analysis of C

programs. *Communications of the ACM*, 28(1):80–88, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2469.html>.

**Blair:1985:ERE**

- [BM85c] David C. Blair and M. E. Maron. An evaluation of retrieval effectiveness for a full-text document-retrieval system. *Communications of the ACM*, 28(3):285–299, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3197.html>.

**Butcher:1985:PPI**

- [BM85d] D. F. Butcher and W. A. Muth. Predicting performance in an introductory computer science course. *Communications of the ACM*, 28(3):263–268, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3167.html>.

**Booth:1987:CSP**

- [BM87] Taylor Booth and Raymond E. Miller. Computer Science Program Accreditation: the first-year activities of the computing sciences accreditation board. *Communications of the ACM*, 30(5):376–388, May 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3349.html>.

acm.org/pubs/toc/Abstracts/  
0001-0782/22902.html.

**Bobrow:1986:ESP**

- [BMS86] Daniel G. Bobrow, Sanjay Mit-  
tal, and Mark J. Stefik. Ex-  
pert systems: perils and promise.  
*Communications of the ACM*,  
29(9):880–894, September 1986.  
CODEN CACMA2. ISSN 0001-  
0782 (print), 1557-7317 (elec-  
tronic). URL [http://www.  
acm.org/pubs/toc/Abstracts/  
0001-0782/6597.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/6597.html).

**Barker:1989:ESC**

- [BOBS89] Virginia E. Barker, Dennis E.  
O'Connor, Judith Bachant, and  
Elliot Soloway. Expert sys-  
tems for configuration at Digi-  
tal: XCON and beyond. *Com-  
munications of the ACM*, 32  
(3):298–318, March 1989. CO-  
DEN CACMA2. ISSN 0001-  
0782 (print), 1557-7317 (elec-  
tronic). URL [http://www.  
acm.org/pubs/toc/Abstracts/  
0001-0782/62067.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/62067.html).

**Baroudi:1986:ESI**

- [BOI86] Jack J. Baroudi, Margrethe H.  
Olson, and Blake Ives. An em-  
pirical study of the impact of  
user involvement on system use-  
age and information satisfaction.  
*Communications of the ACM*, 29  
(3):232–238, March 1986. CO-  
DEN CACMA2. ISSN 0001-  
0782 (print), 1557-7317 (elec-  
tronic). URL [http://www.  
acm.org/pubs/toc/Abstracts/  
0001-0782/5669.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/5669.html).

**Boothroyd:1964:G**

- [Boo64] J. Boothroyd. ACM Algorithm  
246: Graycode. *Communications  
of the ACM*, 7(12):701, Decem-  
ber 1964. CODEN CACMA2.  
ISSN 0001-0782 (print), 1557-  
7317 (electronic). See also  
[Mis75, Er85].

**Booth:1981:ASU**

- [Boo81] K. S. Booth. Authentication of  
signatures using public key en-  
cryption. *Communications of the  
ACM*, 24(11):772–774, Novem-  
ber 1981. CODEN CACMA2.  
ISSN 0001-0782 (print), 1557-  
7317 (electronic).

**Bork:1986:V**

- [Bor86] Alfred Bork. Viewpoint. *Com-  
munications of the ACM*, 29  
(5):360–ff., May 1986. CO-  
DEN CACMA2. ISSN 0001-0782  
(print), 1557-7317 (electronic).

**Borning:1987:CSR**

- [Bor87] Alan Borning. Computer system  
reliability and nuclear war. *Com-  
munications of the ACM*, 30(2):  
112–131, February 1987. CO-  
DEN CACMA2. ISSN 0001-  
0782 (print), 1557-7317 (elec-  
tronic). URL [http://www.  
acm.org/pubs/toc/Abstracts/  
0001-0782/12528.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/12528.html).

**Botting:1986:NST**

- [Bot86] Richard Botting. Novel secu-  
rity techniques for online sys-  
tems. *Communications of the  
ACM*, 29(5):416–417, May 1986.

- CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5921.html>.
- [Boz84] Gerald Bozman. The software lookaside buffer reduces search overhead with linked lists. *Communications of the ACM*, 27(3):222–227, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BP84] Victor R. Basili and Barry T. Perricone. Software errors and complexity: An empirical investigation. *Communications of the ACM*, 27(1):42–52, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BPR88] Michael R. Blaha, William J. Premerlani, and James E. Rumbaugh. Relational database design using an object-oriented methodology. *Communications of the ACM*, 31(4):414–427, April 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42407.html>.
- [Bré79] Daniel Brélaz. New methods to color vertices of a graph. *Communications of the ACM*, 22(4):251–256, April 1979. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Pee83, KJ85].
- [Bro72] R. J. Brown. Chromatic scheduling and the chromatic number problem. *Management Science*, 19(??):451–463, 1972. CODEN MSCIAM. ISSN 0025-1909 (print), 1526-5501 (electronic). See [KJ85].
- [Bro80] R. E. Brooks. Studying programming behavior experimentally: The problems of proper methodology. *Communications of the ACM*, 23(4):207–213, April 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bro82] James W. Brown. Controlling the complexity of menu networks. *Communications of the ACM*, 25(7):412–418, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bro83] P. J. Brown. Error messages: The neglected area of the man/machine interface? *Communications of the ACM*, 26(4):246–249, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Bro84a] P. J. Brown. Languages: Three interviews (April 1984 special section). *Communications of the*

**Bozman:1984:SLB****Basili:1984:SEC****Blaha:1988:RDD****Brelaz:1979:NMC****Brown:1972:CSC****Brooks:1980:SPB****Brown:1982:CCM****Brown:1983:EMN****Brown:1984:LTI**

*ACM*, 27(4):352–355, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Brownrigg:1984:WMF**

- [Bro84b] D. R. K. Brownrigg. The weighted median filter. *Communications of the ACM*, 27(8): 807–818, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Brown:1988:CQF**

- [Bro88] R. Brown. Calendar queues: a fast  $O(1)$  priority queue implementation for the simulation event set problem. *Communications of the ACM*, 31(10): 1220–1227, October 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63045.html>.

**Biermann:1985:NLD**

- [BRRH85] Alan W. Biermann, Robert D. Rodman, David C. Rubin, and J. Francis Heidlage. Natural language with discrete speech as a mode for human-to-machine. *Communications of the ACM*, 28(6):628–636, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3817.html>.

**Balci:1981:MCR**

- [BS81] Osman Balci and Robert G. Sargent. A methodology for cost-risk analysis in the statistical

validation of simulation models. *Communications of the ACM*, 24(4):190–197, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Bernstein:1990:AFD**

- [BSE+90] Danielle R. Bernstein, Joshua Stern, William Ehrich, Michael R. Dunlavey, Leonard Zettel, Bruce B. Herbert, Mark Nelson, W. F. Smyth, Bruce W. Walker, Robert M. Gordon, Stephen N. Cole, and David B. Lightstone. ACM Forum: Debatable. *Communications of the ACM*, 33(3):264–271, March 1990. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Dij89b, WWSD90].

**Bentley:1986:LAD**

- [BSTW86] Jon Louis Bentley, Daniel D. Sleator, Robert E. Tarjan, and Victor K. Wei. A locally adaptive data compression scheme. *Communications of the ACM*, 29(4):320–330, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5688.html>.

**Burr:1983:OPA**

- [Bur83] William E. Burr. An overview of the proposed American National Standard for Local Distributed Data Interfaces. *Communications of the ACM*, 26(8): 554–561, August 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [BW84] **Benbasat:1984:CAB**  
 Izak Benbasat and Yair Wand. Command abbreviation behavior in human-computer interaction. *Communications of the ACM*, 27(4):376–383, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [BW89] **Beusmans:1989:CRW**  
 Jack Beusmans and Karen Wieckert. Computing, research, and war: if knowledge is power, where is responsibility? *Communications of the ACM*, 32(8):939–951, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65973.html>.
- [BYG92] **Baeza-Yates:1992:NAT**  
 Ricardo Baeza-Yates and Gaston H. Gonnet. A new approach to text searching. *Communications of the ACM*, 35(10):74–82, October 1992. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/135243.html>. This paper describes a new linear-time string search algorithm that can handle limited regular-expression pattern matching *without* backtracking. See also [KMP77], [BM77], [KR81], [Sun90], and [WM92].
- [CA88] **Carroll:1988:LDS**  
 John M. Carroll and Amy P. Aaronson. Learning by doing with simulated intelligent help. *Communications of the ACM*, 31(9):1064–1079, September 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48531.html>.
- [CAB+81] **Chamberlin:1981:HES**  
 Donald D. Chamberlin, Morton M. Astrahan, Michael W. Blasgen, James N. Gray, W. Frank King, Bruce G. Lindsay, Raymond Lorie, James W. Mehl, Thomas G. Price, Franco Putzolo, Patricia Griffiths Selinger, Mario Schkolnick, Donald R. Slutz, Irving L. Traiger, Bradford W. Wade, and Robert A. Yost. A history and evaluation of System R. *Communications of the ACM*, 24(10):632–646, October 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprinted in M. Stonebraker, *Readings in Database Sys.*, Morgan Kaufmann, San Mateo, CA, 1988.
- [Car84] **Carlow:1984:ASS**  
 G. D. Carlow. Architecture of the Space Shuttle Primary Avionics Software System. *Communications of the ACM*, 27(9):926–937, September 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [CC84] **Carroll:1984:TWU**  
 John M. Carroll and Caroline Carrithers. Training wheels in

a user interface. *Communications of the ACM*, 27(8):800–806, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Campbell:1984:EMR**

- [CCFJ84] David Campbell, Jim Crutchfield, Doyne Farmer, and Erica Jen. Experimental mathematics: The role of computation in nonlinear science. *Communications of the ACM*, 28(4):374–384, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Campbell:1985:EMR**

- [CCFJ85] David Campbell, Jim Crutchfield, Doyne Farmer, and Erica Jen. Experimental mathematics: the role of computation in nonlinear science. *Communications of the ACM*, 28(4):374–384, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3345.html>.

**Cadwallader-Cohen:1984:CIA**

- [CCZD84] J. B. Cadwallader-Cohen, W. W. Zysic, and R. B. Donnelly. The Chaostron: An important advance in learning machines (April 1984 special section). *Communications of the ACM*, 27(4):356–357, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Clapp:1986:TRT**

- [CDV+86] Russell M. Clapp, Louis Duchesneau, Richard A. Volz, Trevor N. Mudge, and Timothy Schultze. Toward real-time performance benchmarks for Ada. *Communications of the ACM*, 29(8):760–778, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6428.html>.

**Cheng:1980:GVG**

- [CF80] R. C. H. Cheng and G. M. Feast. Gamma variate generators with increased shape parameter range. *Communications of the ACM*, 23(7):389–394, July 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Cloutier:1983:PAR**

- [CF83] Mark J. Cloutier and Matthew J. Friedman. Precision averaging for real-time analysis. *Communications of the ACM*, 26(7):525–529, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Canon:1980:VME**

- [CFH+80] M. D. Canon, D. H. Fritz, John H. Howard, T. D. Howell, Michael F. Mitoma, and Juan Rodriguez-Rossel. A virtual machine emulator for performance evaluation. *Communications of the ACM*, 23(2):71–80, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [CG86] **Ceri:1986:NRP**  
S. Ceri and G. Gottlob. Normalization of relations and PROLOG. *Communications of the ACM*, 29(6):524–544, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5952.html>. Also published in/as: Polit. Milano, Dep. Elettronica, Lab. d. Calc. TR., July 1985.
- [CG88] **Campbell:1988:HGP**  
Brad Campbell and Joseph M. Goodman. HAM: a general purpose hypertext abstract machine. *Communications of the ACM*, 31(7):856–861, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48515.html>.
- [CG89] **Carriero:1989:LC**  
Nicholas Carriero and David Gelernter. Linda in context. *Communications of the ACM*, 32(4):444–458, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63337.html>.
- [CGM83] **Chesnais:1983:MPA**  
A. Chesnais, Erol Gelenbe, and Isi Mitrani. On the modeling of parallel access to shared data. *Communications of the ACM*, 26(3):196–202, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Cha81] **Chaum:1981:UEM**  
David Chaum. Untraceable electronic mail, return addresses, and digital pseudonyms. *Communications of the ACM*, 24(2):84–88, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Cha82] **Chapman:1982:PTA**  
David Chapman. A program testing assistant. *Communications of the ACM*, 25(9):625–634, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Cha84] **Chang:1984:SOM**  
C. C. Chang. The study of an ordered minimal perfect hashing scheme. *Communications of the ACM*, 27(4):384–387, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). The English translation of Ref. 6 of this paper appears in [Hua82]; that book contains the fundamental prime number functions needed for the ordered minimal perfect hash functions described here.
- [Cha85] **Chaum:1985:SIT**  
David Chaum. Security without identification: transaction systems to make big brother obsolete. *Communications of the ACM*, 28(10):



1030–1044, October 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4373.html>.

**Cheung:1982:EBA**

[Che82] T-Y. Cheung. Estimating block accesses and number of records in file management. *Communications of the ACM*, 25(7):484–487, July 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Cheriton:1988:VDS**

[Che88a] David Cheriton. The V distributed system. *Communications of the ACM*, 31(3):314–333, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42400.html>. Comment 1 by Schlenk, Wed Jun 29 16:48:07 1988. This article covers the V-kernel design, servers (i.e. file server, name server,...) and applications (parallel programs). The underlying VMTP is claimed to be a very efficient RPC implementation. The protocol might become a DARPA Internet standard. Future research directions include protocols for high speed communication lines ( $\geq 100$  MBit/sec).

**Cherniak:1988:UCS**

[Che88b] Christopher Cherniak. Undebuggability and cognitive science.

*Communications of the ACM*, 31(4):402–412, April 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42406.html>.

**Callahan:1988:CGT**

[CHH88] Michael J. Callahan, David Hoffman, and James T. Hoffman. Computer graphics tools for the study of minimal surfaces. *Communications of the ACM*, 31(6):648–661, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62961.html>.

**Chang:1984:EAG**

[CI84] Hsi Chang and S. Sitharama Iyengar. Efficient algorithms to globally balance a binary search tree. *Communications of the ACM*, 27(7):695–702, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Cichelli:1980:MPH**

[Cic80a] R. J. Cichelli. Minimal perfect hash functions made simple. *Communications of the ACM*, 23(1):17–19, January 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See remarks in [JO80], and the author’s response in [Cic80b], and also later extension [Sag85].

**Cichelli:1980:TCC**

- [Cic80b] R. J. Cichelli. Technical correspondence: On Cichelli's minimal perfect hash functions method. *Communications of the ACM*, 23(12):728–729, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). This is the author's response to the comments in [JO80] about [Cic80a]. See also [Sag85].

**Cook:1980:BSA**

- [CK80] Curtis R. Cook and Do Jin Kim. Best sorting algorithms for nearly sorted lists. *Communications of the ACM*, 23(11):620–624, November 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Coulter:1986:CIS**

- [CK86] Neal S. Coulter and Norman H. Kelly. Computer instruction set usage by programmers: an empirical investigation. *Communications of the ACM*, 29(7):643–647, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6148.html>.

**Cotterman:1989:UCT**

- [CK89] William W. Cotterman and Kuldeep Kumar. User cube: a taxonomy of end users. *Communications of the ACM*, 32(11):1313–1320, November 1989. CODEN CACMA2. ISSN 0001-

0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/68816.html>.

**Curtis:1988:FSS**

- [CKI88] Bill Curtis, Herb Krasner, and Neil Iscoe. A field study of the software design process for large systems. *Communications of the ACM*, 31(11):1268–1287, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50089.html>.

**Clark:1981:UPD**

- [Cla81] Gordon M. Clark. Use of Pólya distributions in approximate solutions to nonstationary  $M/M/s$  queues. *Communications of the ACM*, 24(4):206–217, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Clark:1984:LCG**

- [Cla84] R. Lawrence Clark. A linguistic contribution to goto-less programming (April 1984 special section). *Communications of the ACM*, 27(4):349–350, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Clarke:1988:ITD**

- [Cla88] Roger Clarke. Information technology and dataveillance. *Communications of the ACM*, 31(5):498–512, May 1988. CODEN CACMA2. ISSN 0001-

- 0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42413.html>.
- [CLC82] Francis Y. Chin, John Lam, and I Ngo Chen. Efficient parallel algorithms for some graph problems. *Communications of the ACM*, 25(9):659–665, September 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [CM84] **Chin:1982:EPA** Patricia F. Campbell and George P. McCabe. Predicting the success of freshmen in a computer science major. *Communications of the ACM*, 27(11):1108–1113, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [CLO85] **Cullers:1985:SPS** John M. Carroll and Jean McKeendree. Interface design issues for advice-giving expert systems. *Communications of the ACM*, 30(1):14–32, January 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7886.html>.
- [CM87] **Chandy:1981:ADS** James M. Cupello and David J. Mishelevich. Managing prototype knowledge/expert system projects. *Communications of the ACM*, 31(5):534–541, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42416.html>.
- [CM81] **Chandy:1982:DCG** Stuart K. Card, Thomas P. Moran, and Allen Newell. The keystroke-level model for user performance time with interactive systems. *Communications of the ACM*, 23(7):396–410, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [CM82] **Card:1980:KLM** K. M. Chandy and J. Misra. Distributed computation on graphs: Shortest path algorithms. *Communications of the ACM*, 25(11):833–837, November 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4549.html>.
- [CMN80] **Campbell:1984:PSF** James M. Cupello and David J. Mishelevich. Managing prototype knowledge/expert system projects. *Communications of the ACM*, 31(5):534–541, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42416.html>.

July 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Chandy:1982:LHA**

- [CN82] K. M. Chandy and D. Neuse. Linearizer: a heuristic algorithm for queueing network models of computing systems. *Communications of the ACM*, 25(2): 126–134, February 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Chambers:1985:PFH**

- [CN85] Alan B. Chambers and David C. Nagel. Pilots of the future: human or computer? *Communications of the ACM*, 28(11): 1187–1199, November 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4551.html>.

**Cochran:1987:APY**

- [Coc87] Anita Cochran. ACM: the past 15 years: 1972–1987. *Communications of the ACM*, 30(10): 866–872, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30419.html>.

**Cocke:1988:SPS**

- [Coc88] John Cocke. The search for performance in scientific processors: the Turing Award Lecture. *Communications of the ACM*, 31(3):250–253, March 1988. CO-

DEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42394.html>.

**Codd:1970:RMD**

- [Cod70] E. F. Codd. A relational model of data for large shared data banks. *Communications of the ACM*, 13(6):377–387, June 1970. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://dblp.uni-trier.de/db/journals/cacm/Codd70.html>. Reprinted in [Sto88b, pp. 5–15].

**Codd:1982:RDP**

- [Cod82] E. F. Codd. Relational database: a practical foundation for productivity. *Communications of the ACM*, 25(2):109–117, February 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Codd:1983:RMD**

- [Cod83] E. F. Codd. A relational model of data for large shared data banks (reprint). *Communications of the ACM*, 26(1):64–69, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Cod70].

**Cohen:1982:CAM**

- [Coh82] Jacques Cohen. Computer-assisted microanalysis of programs. *Communications of the ACM*, 25(10):724–733, October 1982. CODEN CACMA2.

- ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Coh85] Jacques Cohen. Describing Prolog by its interpretation and compilation. *Communications of the ACM*, 28(12):1311–1324, December 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214960.html>.
- [Coh88] Jacques Cohen. A view of the origins and development of Prolog. *Communications of the ACM*, 31(1):26–36, January 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/35045.html>.
- [Col85] Alain Colmerauer. Prolog in 10 figures. *Communications of the ACM*, 28(12):1296–1310, December 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214958.html>.
- [Com80] Michael T. Compton. Easing fault location in large systems. *Communications of the ACM*, 23(8):440–442, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Com83] D. A. Comer. A computer science research network CSNET: a history and status report. *Communications of the ACM*, 26(10):747–753, October 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Con85] Michael Conrad. On design principles for a molecular computer. *Communications of the ACM*, 28(5):464–480, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3533.html>.
- [Coo83] Stephen A. Cook. An overview of computational complexity. *Communications of the ACM*, 26(6):400–408, June 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Cor85] Gordon V. Cormack. Data compression on a database system. *Communications of the ACM*, 28(12):1336–1342, December 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214963.html>.
- [Cou85] P.-J. Courtois. On time and space decomposition of complex

- structures. *Communications of the ACM*, 28(6):590–603, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3814.html>. [Cro81]
- Courts:1988:ILR**
- [Cou88] Robert Courts. Improving locality of reference in a garbage-collecting memory management system. *Communications of the ACM*, 31(9):1128–1138, September 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48536.html>. [CS80a]
- Crawford:1987:PPI**
- [Cra87] Diane Crawford. Public policy issues ripen with age. *Communications of the ACM*, 30(10):810–813, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30410.html>. [CW89]
- Coombs:1987:MSF**
- [CRD87] James H. Coombs, Allen H. Renear, and Steven J. DeRose. Markup systems and the future of scholarly text processing. *Communications of the ACM*, 30(11):933–947, November 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32209.html>. [CY80]
- Crockett:1981:TP**
- Dan W. Crockett. Triform programs. *Communications of the ACM*, 24(6):344–350, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Chambers:1980:CAI**
- Jack A. Chambers and Jerry W. Sprecher. Computer assisted instruction: Current trends. *Communications of the ACM*, 23(6):332–342, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Chandy:1980:CAP**
- K. Mani Chandy and Charles H. Sauer. Computational algorithms for product form queueing networks. *Communications of the ACM*, 23(10):573–583, October 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Cheng:1989:DKB**
- Wan-Hong S. Cheng and Virgil E. Wallentine. DEBL: a knowledge-based language for specifying and debugging distributed programs. *Communications of the ACM*, 32(9):1079–1084, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66455.html>.
- Chand:1980:LCS**
- Donald R. Chand and Surya B. Yadav. Logical construction of

- software. *Communications of the ACM*, 23(10):546–555, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Dav84b]
- [D'A84] Thomas A. D'Auria. ACM's visit to the People's Republic of China. *Communications of the ACM*, 27(3):208–214, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Dav86]
- [Dal84] Gene Dallaire. American universities need greater access to supercomputers. *Communications of the ACM*, 27(4):293–298, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Dav81] George I. Davida. The case against restraints on non-governmental research in cryptography. *Communications of the ACM*, 24(7):445–450, July 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). This is an opposing view published with [BBB<sup>+</sup>81]. [Dav88]
- [Dav84a] D. Julian M. Davies. Memory occupancy patterns in garbage collection systems. *Communications of the ACM*, 27(8):819–825, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [DB81]
- [Davis:1984:SPF] Gordon B. Davis. Selected papers from the Fifth International Conference on Information Systems — introduction. *Communications of the ACM*, 27(12):1183–??, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Davis:1986:SPS] Gordon B. Davis. Selected papers from the sixth international conference on information systems. *Communications of the ACM*, 29(1):39, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214903.html>.
- [Davis:1988:CTS] Alan M. Davis. A comparison of techniques for the specification of external system behavior. *Communications of the ACM*, 31(9):1098–1115, September 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48534.html>.
- [Denning:1981:SRR] Peter J. Denning and David H. Brandin. Special report: Report of the Public Cryptography Study Group. *Communications of the ACM*, 24(7):434, July 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- Dori:1984:ENC**
- [DBB84] Dov Dori and Moshe Ben-Bassat. Efficient nesting of congruent convex figures. *Communications of the ACM*, 27(3):228–235, March 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Deringer:1986:RAL**
- [DBFJ86] Dorothy Deringer, David Brandin, Dexter Fletcher, and Neil Jacobstein. The report of the ACM Long-Range Planning Committee: a summary. *Communications of the ACM*, 29(11):1061–1071, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7544.html>.
- DeSanctis:1983:TFU**
- [DC83] Gerardine DeSanctis and James F. Courtney. Toward friendly user MIS implementation. *Communications of the ACM*, 26(10):732–738, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Denning:1989:CD**
- [DCG<sup>+</sup>89] Peter J. Denning, D. E. Comer, David Gries, Michael C. Mulder, Allen Tucker, A. Joe Turner, and Paul R. Young. Computing as a discipline. *Communications of the ACM*, 32(1):9–23, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63239.html>.
- Denning:1981:LCS**
- [DDB81] Peter J. Denning, T. Don Dennis, and Jeffrey A. Brumfield. Low contention semaphores and ready lists. *Communications of the ACM*, 24(10):687–699, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Dickson:1986:UEC**
- [DDM86] Gary W. Dickson, Gerardine DeSanctis, and D. J. McBride. Understanding the effectiveness of computer graphics for decision support: a cumulative experimental approach. *Communications of the ACM*, 29(1):40–47, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5469.html>.
- Deimel:1980:MCP**
- [Dei80] Lionel E. Deimel, Jr. On a matrix chain product algorithm. correction to: “An  $O(n)$  algorithm for determining a near-optimal computation order of matrix chain products” [Comm. ACM, 21, 1978, 544–549, MR 80a:68037] by F. Y. Chin. with a reply by Chin. *Communications of the ACM*, 23(5):301, May 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).



**Demers:1981:SDU**

- [Dem81] Richard A. Demers. System design for usability. *Communications of the ACM*, 24(8):494–501, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1968:WSM**

- [Den68] Peter J. Denning. The working set model for program behaviour. *Communications of the ACM*, 11(5):323–333, May 1968. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1976:LMS**

- [Den76] Dorothy E. Denning. A lattice model of secure information flow. *Communications of the ACM*, 19(5):236–243, May 1976. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1980:TCS**

- [Den80] Dorothy E. Denning. Technical correspondence: On secure personal computing. *Communications of the ACM*, 23(1):36–39, January 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1981:PAE**

- [Den81a] P. Denning. Performance analysis: Experimental computer science at its best. *Communications of the ACM*, 24(11):725–727, November 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1981:CAS**

- [Den81b] P. J. Denning. Computer architecture: Some old ideas that haven't quite made it yet. *Communications of the ACM*, 24(9):553–554, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1982:EJ**

- [Den82] Peter J. Denning. Electronic junk. *Communications of the ACM*, 25(3):163–165, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1983:WSM**

- [Den83] Peter J. Denning. The working set model for program behaviour (reprint). *Communications of the ACM*, 26(1):43–48, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Den68].

**Denning:1984:DSR**

- [Den84] Dorothy E. Denning. Digital signatures with RSA and other public-key cryptosystems. *Communications of the ACM*, 27(4):388–392, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1985:SSC**

- [Den85] Peter J. Denning. Special section on computer architecture — introduction. *Communications of the ACM*, 28(1):6–7, 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- Denning:1986:EPC**
- [Den86] P. J. Denning. Editorial: Parallel computing and its evolution. *Communications of the ACM*, 29(12):1163–1166, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Denning:1987:ALP**
- [Den87a] Peter J. Denning. Announcing literate programming, moderated by Christopher J. Van Wyk. *Communications of the ACM*, 30(7):593, July 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Denning:1987:PC**
- [Den87b] Peter J. Denning. Paradigms crossed. *Communications of the ACM*, 30(10):808–809, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30409.html>.
- Denning:1988:ECB**
- [Den88] Peter J. Denning. Edmund C. Berkeley — ACM founder. *Communications of the ACM*, 31(6):781–782, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214901.html>.
- Denning:1989:DTC**
- [Den89] Peter J. Denning. A debate on teaching computing science. *Communications of the ACM*, 32(12):1397, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/76381.html>.
- Diehr:1984:OPB**
- [DF84] George Diehr and Bruce Faaland. Optimal pagination of B-trees with variable-length items. *Communications of the ACM*, 27(3):241–247, March 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Denning:1989:CSJ**
- [DF89] Peter J. Denning and Karen A. Frenkel. A conversation with Steve Jobs. *Communications of the ACM*, 32(4):436–443, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63336.html>.
- Denning:1981:SRD**
- [DFG+81] Peter J. Denning, Edward A. Feigenbaum, Paul Gilmore, Anthony C. Hearn, Robert W. Ritchie, and Joseph F. Traub. The Snowbird report: a discipline in crisis. *Communications of the ACM*, 24(6):370–374, June 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Doyle:1982:SSS**
- [DG82] M. S. Doyle and J. W. Graham. A study of superfluity in

storage hierarchies. *Communications of the ACM*, 25(8):550–555, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Dij68]

**Dongarra:1987:DMS**

[DG87] Jack J. Dongarra and Eric Grosse. Distribution of mathematical software via electronic mail. *Communications of the ACM*, 30(5):403–407, May 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/22904.html>. [Dij83a]

**Driscoll:1988:RHA**

[DGST88] James R. Driscoll, Harold N. Gabow, Ruth Shrairman, and Robert E. Tarjan. Relaxed heaps: An alternative to Fibonacci heaps with applications to parallel computation. *Communications of the ACM*, 31(11):1343–1354, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50096.html>. [Dij83b]

**Dijkstra:1965:SPC**

[Dij65] Edsger W. Dijkstra. Solution of a problem in concurrent programming control. *Communications of the ACM*, 8(9):569–??, September 1965. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Dij89b]

**Dijkstra:1968:SMS**

Edsger W. Dijkstra. The structure of the “THE”-multiprogramming system. *Communications of the ACM*, 11(5):341–346, May 1968. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Dijkstra:1983:SPC**

Edsger W. Dijkstra. Solution of a problem in concurrent programming control (reprint). *Communications of the ACM*, 26(1):21–22, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Dij65].

**Dijkstra:1983:SMS**

Edsger W. Dijkstra. The structure of the “THE”-multiprogramming system (reprint). *Communications of the ACM*, 26(1):49–52, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Dij68].

**Dijkstra:1989:DRC**

Edsger W. Dijkstra. Dijkstra’s reply to comments. *Communications of the ACM*, 32(12):1414, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Dijkstra:1989:CRT**

Edsger W. Dijkstra. On the cruelty of really teaching computer science. *Communications of the*

- ACM*, 32(12):1398–1404, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also responses in letters [BSE<sup>+</sup>90, WWSD90].
- [Dix89] **Dixon:1989:LBC**  
Douglas F. Dixon. Life before the chips: Simulating digital video interactive technology. *Communications of the ACM*, 32(7):824–831, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65449.html>.
- [DK87] **Dolk:1987:RIR**  
Daniel R. Dolk and Robert A. Kirsch, II. A relational information resource dictionary system. *Communications of the ACM*, 30(1):48–61, January 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7888.html>.
- [DLA85] **Devlin:1985:SAP**  
Jane P. Devlin, William A. Lowell, and Anne E. Alger. Self-Assessment Procedure XIV: a self-assessment procedure dealing with the legal issues of computing. *Communications of the ACM*, 28(5):481–488, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214928.html>.
- [DLS83] **Durham:1983:SCU**  
I. Durham, D. Lamb, and J. Saxe. Spelling correction in user interfaces. *Communications of the ACM*, 26(10):764–773, October 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [DM85] **Denning:1985:CFS**  
Peter J. Denning and Michael C. Mulder. Computing in the frontiers of science and engineering — introduction. *Communications of the ACM*, 28(11):1128–1129, 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Dod82] **Dodds:1982:PRD**  
D. J. Dodds. Pracniques: Reducing dictionary size by using a hashing technique. *Communications of the ACM*, 25(6):368–370, June 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Dol88] **Dolk:1988:MMS**  
D. R. Dolk. Model management and structured modeling: the role of an information resource dictionary system. *Communications of the ACM*, 31(6):704–718, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62967.html>.

**Dhar:1987:RBV**

- [DP87] Vasant Dhar and Harry E. Pople. Rule-based versus structure-based models for explaining and generating expert behavior. *Communications of the ACM*, 30(6):542–555, June 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214773.html>.

**Denning:1984:CCP**

- [DPNW84] Peter J. Denning, Donn B. Parker, Susan H. Nycum, and Willis H. Ware. Computers, crime and privacy — a national dilemma, congressional testimony from the industry. *Communications of the ACM*, 27(4):312–321, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Dobson:1989:PVP**

- [DR89] John Dobson and Brian Randell. Program verification: Public image and private reality. *Communications of the ACM*, 32(4):420–422, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Dyer:1980:RRB**

- [DRS80] C. R. Dyer, A. Rosenfeld, and H. Samet. Region representation: Boundary codes from quadtrees. *Communications of the ACM*, 23(3):171–179, March 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Denning:1981:TKD**

- [DS81a] D. E. Denning and M. S. Sacco. Timestamps in key distribution protocols. *Communications of the ACM*, 24(8):533–536, August 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Donnelly:1981:MMS**

- [DS81b] J. H. Donnelly and R. E. Shannon. Minimum mean-squared-error estimators for simulation experiments. *Communications of the ACM*, 24(4):253–259, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Davis:1983:ISS**

- [DS83] Gordon B. Davis and M. H. Schwartz. Introduction to the special section on information systems management. *Communications of the ACM*, 26(10):775–??, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**diSessa:1986:BRC**

- [dSA86] Andrea di Sessa and Harold Abelson. Boxer: a reconstructible computational medium. *Communications of the ACM*, 29(9):859–868, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6595.html>.

**Dallaire:1984:SCP**

- [DSB84] Gene Dallaire, Fortney H. Stark, and Hal Berghel. Should congress provide special tax incentives for firms donating computers to schools? *Communications of the ACM*, 27(3):185–194, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [DV83]

**Dallaire:1984:CMS**

- [DSK84] Gene Dallaire, John Shattuck, and Richard P. Kusserow. Computer matching: Should it be banned? *Communications of the ACM*, 27(6):537–545, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [DvH66]

**Doll:1987:RMS**

- [DT87] William J. Doll and Golamreza Torkezadeh. The relationship of MIS steering committees to size of firm and formalization of MIS planning. *Communications of the ACM*, 30(11):972–978, November 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32213.html>. [DW83]

**Dunlavey:1981:LES**

- [Dun81] Michael R. Dunlavey. Letter to the Editor: On spelling correction and beyond. *Communications of the ACM*, 24(9):608, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Pet80, Mil81, Nix81, Pet81]. [Dwy81a]

**Dennis:1983:PSM**

Jack B. Dennis and Earl C. Van Horn. Programming semantics for multiprogrammed computations (reprint). *Communications of the ACM*, 26(1):29–35, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [DvH66].

**Dennis:1966:PSM**

J. B. Dennis and E. C. van Horn. Programming semantics for multiprogrammed computations. *Communications of the ACM*, 9(3):143–155, March 1966. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Dagwell:1983:SDU**

Ron Dagwell and Ron Weber. System designers' user models: a comparative study and methodological critique. *Communications of the ACM*, 26(11):987–997, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Dwyer:1981:OMT**

Barry Dwyer. One more time — how to update a master file. *Communications of the ACM*, 24(1):3–8, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Dwyer:1981:UFA**

Barry Dwyer. A user-friendly algorithm. *Communications of the*

*ACM*, 24(9):556–561, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**DeJean:1989:DOT**

[DZ89]

David M. DeJean and George W. Zobrist. A definition optimization technique used in a code translation algorithm. *Communications of the ACM*, 32(1):94–105, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63245.html>.

**Earley:1970:ECF**

[Ear70]

Jay Earley. An efficient context-free parsing algorithm. *Communications of the ACM*, 13(2):94–102, February 1970. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Earley:1983:ECF**

[Ear83]

Jay Earley. An efficient context-free parsing algorithm (reprint). *Communications of the ACM*, 26(1):57–61, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Ear70].

**Earnest:1989:CCC**

[Ear89]

L. Earnest. Can computers cope with human races? *Communications of the ACM*, 32(2):173–182, February 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63343.html>.

[acm.org/pubs/toc/Abstracts/0001-0782/63343.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/63343.html).

**Eastman:1982:CEN**

[Eas82]

C. M. Eastman. A comment on English neologisms and programming language keywords. *Communications of the ACM*, 25(12):938–940, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Edgeman:1989:RNG**

[EASC89]

Rick L. Edgeman, Paul W. Abrahams, Francis M. Sand, and James Crawford, Jr. Random number generators and the minimal standard. *Communications of the ACM*, 32(8):1020–1024, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ebert:1987:VDS**

[Ebe87]

Jürgen Ebert. A versatile data structure for edge-oriented graph algorithms. *Communications of the ACM*, 30(6):513–519, June 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214769.html>.

**Eckert:1980:EDS**

[Eck80]

J. Presper Eckert. Eulogy: Delivered in St. Anthony’s Church, Ambler, Pennsylvania, at funeral services on January 11, 1980. *Communications of the ACM*, 23(3):145–146, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ein-Dor:1985:GLR**

- [ED85] Phillip Ein-Dor. Grosch's law re-revisited: CPU power and the cost of computation. *Communications of the ACM*, 28(2): 142–151, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2787.html>.

**Ein-Dor:1984:APC**

- [EDF84] Phillip Ein-Dor and Jacob Feldmesser. Attributes of the performance of central processing units: a relative performance prediction model. *Communications of the ACM*, 30(4):308–317, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ein-Dor:1987:APC**

- [EDF87] Phillip Ein-Dor and Jacob Feldmesser. Attributes of the performance of central processing units: a relative performance prediction model. *Communications of the ACM*, 30(4):308–317, April 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32234.html>.

**Efe:1987:PSP**

- [Efe87] Kemal Efe. A proposed solution to the problem of levels in error-message generation. *Communications of the ACM*, 30(11):

948–955, November 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32210.html>.

**Eisenberg:1989:CCM**

- [EGH<sup>+</sup>89] T. Eisenberg, D. Gries, J. Hartmanis, D. Holcomb, M. Stuart Lynn, and T. Santoro. The Cornell commission: on Morris and the worm. *Communications of the ACM*, 32(6):706–709, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63530.html>.

**Even:1985:RPS**

- [EGL85] Shimon Even, Oded Goldreich, and Abraham Lempel. A randomized protocol for signing contracts. *Communications of the ACM*, 28(6):637–647, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3818.html>.

**Eisenstadt:1983:UFS**

- [Eis83] Marc Eisenstadt. A user-friendly software environment for the novice programmer. *Communications of the ACM*, 26(12):1058–1064, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**elLozy:1976:RAC**

- [eL76] Mohamed el Lozy. Remark on “Algorithm 299: Chi-Squared In-



- tegral [S15]”. *ACM Transactions on Mathematical Software*, 2(4): 393–395, December 1976. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [HP67, HP85].
- [eL79] **elLozy:1979:RAS** Mohamed el Lozy. Remark on “Algorithm 395: Student’s  $t$ -Distribution” and remark on “Algorithm 396: Student’s Quantiles [S14]”. *ACM Transactions on Mathematical Software*, 5(2):238–239, June 1979. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [Hil70a, Hil70b, Hil81a, HP85].
- [El160] **Ellenberger:1960:NSP** K. W. Ellenberger. ACM Algorithm 30: Numerical solution of the polynomial equation. *Communications of the ACM*, 3(12):643, December 1960. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [Nov85].
- [EM82] **Elshoff:1982:ICP** James L. Elshoff and Michael Marcotty. Improving computer program readability to aid modification. *Communications of the ACM*, 25(8):512–521, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Epp83] **Eppinger:1983:ESI** Jeffrey L. Eppinger. An empirical study of insertion and deletion in binary search trees. *Communications of the ACM*, 26(9):663–669, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Er85] **Er:1985:RG** M. C. Er. Remark on “Algorithm 246: Graycode [Z]”. *ACM Transactions on Mathematical Software*, 11(4):441–443, December 1985. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [Boo64, Mis75].
- [ES89] **Evans:1989:WBP** Gerald E. Evans and Mark G. Simkin. What best predicts computer proficiency? *Communications of the ACM*, 32(11): 1322–1327, November 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/68817.html>.
- [Eva82] **Evans:1982:SEC** Michael Evans. Software engineering for the Cobol environment. *Communications of the ACM*, 25(12):874–882, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [FB81] **Fischler:1981:RSC** Martin A. Fischler and Robert C. Bolles. Random sample consensus: a paradigm for model fitting with applications to image analysis and automated cartography. *Communications of the ACM*, 24

(6):381–395, June 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Frاند:1989:FAU**

- [FB89] Jason L. Frاند and Julia A. Britt. Fifth annual UCLA survey of business school computer usage. *Communications of the ACM*, 32(1):62–76, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63242.html>.

**Feczko:1987:AMC**

- [Fec87] Linda Feczko. ACM — making computing history for 40 years — introduction. *Communications of the ACM*, 30(10):849, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30416.html>.

**Fedorowicz:1981:CPP**

- [Fed81] Jane Fedorowicz. Comments on price/performance patterns of U.S. computer systems. *Communications of the ACM*, 24(9):585–586, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Fetzer:1988:PVV**

- [Fet88] James H. Fetzer. Program verification: the very idea. *Communications of the ACM*, 31(9):1048–1063, September 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (elec-

tronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48530.html>. Comment 1 by Schlenk, Sun May 21 18:41:04 1989. Discusses two views: Programs can be derived from specs through mathematical methods (Hoare) versus verification as a social process (DeMillo, Lipton, Perlis). There is a response to this paper in CACM April 89.

**Fournier:1982:CRS**

- [FFC82] A. Fournier, D. Fussell, and L. Carpenter. Computer rendering of stochastic models. *Communications of the ACM*, 25(6):371–384, June 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Feldman:1988:CSC**

- [FFGL88] Jerome A. Feldman, Mark A. Fanty, Nigel H. Goddard, and Kenton J. Lynne. Computing with structured connectionist networks. *Communications of the ACM*, 31(2):170–187, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214981.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42377.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42378.html>.

**Fox:1988:CPP**

- [FG88] Bennett L. Fox and Peter W. Glynn. Computing Poisson prob-

- abilities. *Communications of the ACM*, 31(4):440–445, April 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42409.html>.
- Fiala:1989:DCF**
- [FG89] E. R. Fiala and D. H. Greene. Data compression with finite windows. *Communications of the ACM*, 32(4):490–505, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63341.html>.
- Fishman:1983:AVR**
- [FH83] George S. Fishman and Bao Sheng D. Huang. Antithetic variates revisited. *Communications of the ACM*, 26(11):964–971, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Fleckenstein:1989:UGN**
- [FH89] Charles J. Fleckenstein and David Hemmendinger. Using a global name space for parallel execution of UNIX tools. *Communications of the ACM*, 32(9):1085–1090, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66456.html>.
- Filman:1988:RWT**
- [Fil88] Robert E. Filman. Reasoning with worlds and truth maintenance in a knowledge-based programming environment. *Communications of the ACM*, 31(4):382–401, April 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42405.html>.
- Finn:1984:AOB**
- [Fin84] Gerard D. Finn. An algorithm for optimized Boolean evaluation in information management systems. *Communications of the ACM*, 27(5):455–464, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Finn:1985:EUN**
- [Fin85] Gerard D. Finn. Extended use of null productions in LR(1) parser applications. *Communications of the ACM*, 28(9):961–972, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4289.html>.
- Fikes:1985:RFB**
- [FK85a] Richard Fikes and Tom Kehler. The role of frame-based representation in reasoning. *Communications of the ACM*, 28(9):904–920, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4285.html>.

- [FK85b] **Friedland:1985:DSD**  
Peter Friedland and Laurence H. Kedes. Discovering the secrets of DNA. *Communications of the ACM*, 28(11):1164–1186, November 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4550.html>.
- [Fle80] **Fletcher:1980:MGA**  
John G. Fletcher. A more general algorithm for computing closed semiring costs between vertices of a directed graph. *Communications of the ACM*, 23(6):350–351, June 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [FLGD87] **Furnas:1987:VPH**  
G. W. Furnas, T. K. Landauer, L. M. Gomez, and S. T. Dumais. The vocabulary problem in human-system communication. *Communications of the ACM*, 30(11):964–971, November 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32212.html>.
- [FM86] **Frاند:1986:SSA**  
Jason L. Frاند and Ephraim R. McLean. Summary of the second annual UCLA survey of business school computer usage. *Communications of the ACM*, 29(1):12–18, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6040.html>.
- [FMB88] **Frاند:1988:FAU**  
Jason L. Frاند, Ephraim R. McLean, and Julia A. Britt. Fourth annual UCLA survey of business school computer usage. *Communications of the ACM*, 31(7):896–910, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48520.html>.
- [Fox88] **Fox:1988:APD**  
Edward A. Fox. ACM Press database and electronic products — new services for the information age. *Communications of the ACM*, 31(8):948–951, 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Fox89] **Fox:1989:CRI**  
Edward A. Fox. The coming revolution in interactive digital video. *Communications of the ACM*, 32(7):794–801, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65446.html>.
- [FP88] **Faulk:1988:SHR**  
Stuart R. Faulk and David L. Parnas. On synchronization in hard-real-time systems. *Communications of the ACM*, 31

- (3):274–287, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42397.html>. Comment 1 by Schlenk, Thu Apr 28 13:40:00 1988. Proposes a two level approach to synchronization on the global system state.
- [FR84] Charles R. Franz and Daniel Robey. An investigation of user-led system design: Rational and political perspectives. *Communications of the ACM*, 27(12):1202–1209, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Fra80] C. W. Fraser. A generalized text editor. *Communications of the ACM*, 23(3):154–158, March 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Fra82] Wm. Randolph Franklin. On an improved algorithm for decentralized extrema finding in circular configurations of processors. *Communications of the ACM*, 25(5):336–337, May 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Fra86] Dennis Frailey. Vice-president’s letter. *Communications of the ACM*, 29(11):1026, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Fre85a] Karen A. Frenkel. Report on the microelectronics and computer technology corporation conference. *Communications of the ACM*, 28(8):808–813, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214934.html>.
- [Fre85b] Karen A. Frenkel. Toward automating the software-development cycle. *Communications of the ACM*, 28(6):578–589, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3813.html>.
- [Fre86a] Karen Frenkel. Piecing together complexity. *Communications of the ACM*, 29(2):110–111, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214905.html>.
- [Fre86b] Karen A. Frenkel. Complexity and parallel processing: an interview with Richard Karp. *Communications of the ACM*, 29(2):

112–117, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6326.html>.

**Frenkel:1986:CCS**

[Fre86c] Karen A. Frenkel. Computers, complexity, and the Statue of Liberty restoration. *Communications of the ACM*, 29(4):284–296, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5685.html>.

**Frenkel:1986:ETM**

[Fre86d] Karen A. Frenkel. Evaluating two massively parallel machines. *Communications of the ACM*, 29(8):752–758, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6427.html>.

**Frenkel:1986:ISI**

[Fre86e] Karen A. Frenkel. Introduction to the special issue on parallelism. *Communications of the ACM*, 29(12):1168–1169, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214916.html>.

**Frenkel:1987:IMT**

[Fre87a] Karen A. Frenkel. An interview with the 1986 A. M. Turing Award recipients — John E. Hopcroft and Robert E. Tarjan. *Communications of the ACM*, 30(3):214–222, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214754.html>.

**Frenkel:1987:PCI**

[Fre87b] Karen A. Frenkel. Profiles in computing — introduction. *Communications of the ACM*, 30(10):815–828, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30411.html>.

**Frenkel:1987:PCA**

[Fre87c] Karen A. Frenkel. Profiles in computing: Allan L. Scherr — Big Blue’s time-sharing pioneer. *Communications of the ACM*, 30(10):824–828, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30414.html>.

**Frenkel:1987:PCB**

[Fre87d] Karen A. Frenkel. Profiles in computing: Brian K. Reid: a graphics tale of a hacker tracker. *Communications of the ACM*, 30(10):820–823, October 1987. CODEN CACMA2. ISSN 0001-

- 0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30413.html>. [Fre89a]
- Frenkel:1987:PCD**
- [Fre87e] Karen A. Frenkel. Profiles in computing: Donald E. Knuth: scholar with a passion for the particular. *Communications of the ACM*, 30(10): 816–819, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30412.html>.
- Frenkel:1988:CE**
- [Fre88a] K. A. Frenkel. Computers and elections. *Communications of the ACM*, 31(10):1176–1183, October 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63040.html>.
- Frenkel:1988:ASV**
- [Fre88b] Karen A. Frenkel. The art and science of visualizing data. *Communications of the ACM*, 31(2): 110–121, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214971.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42373.html>. [Fre89d]
- Frenkel:1989:CB**
- Karen A. Frenkel. The computer bowl. *Communications of the ACM*, 32(1):24–31, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63251.html>.
- Frenkel:1989:HCI**
- [Fre89b] Karen A. Frenkel. HDTV and the computer industry. *Communications of the ACM*, 32(11): 1300–1312, November 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/68815.html>.
- Frenkel:1989:IIS**
- [Fre89c] Karen A. Frenkel. An interview with Ivan Sutherland. *Communications of the ACM*, 32(6):712–718, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63531.html>.
- Frenkel:1989:NGI**
- Karen A. Frenkel. The next generation of interactive technologies. *Communications of the ACM*, 32(7):872–881, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65454.html>.

- Frenkel:1989:VR**
- [Fre89e] Karen A. Frenkel. Volume rendering. *Communications of the ACM*, 32(4):426–435, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63335.html>.
- Friedland:1985:SSA**
- [Fri85] Peter Friedland. Special section on architectures for knowledge-based systems. *Communications of the ACM*, 28(9):902–903, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214937.html>.
- Frisse:1988:SIH**
- [Fri88] Mark E. Frisse. Searching for information in a hypertext medical handbook. *Communications of the ACM*, 31(7):880–886, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48518.html>.
- Fushimi:1983:KDG**
- [FT83] M. Fushimi and S. Tezuka. The  $k$ -distribution of generalized feedback shift register pseudorandom numbers. *Communications of the ACM*, 26(7):516–523, July 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Fujitani:1984:LOD**
- [Fuj84] Larry Fujitani. Laser optical disk: The coming revolution in on-line storage. *Communications of the ACM*, 27(6):546–554, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Fleming:1986:HLS**
- [FW86] Philip J. Fleming and John J. Wallace. How not to lie with statistics: the correct way to summarize benchmark results. *Communications of the ACM*, 29(3):218–221, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5673.html>.
- Galle:1981:AEG**
- [Gal81] Per Galle. An algorithm for exhaustive generation of building floor plans. *Communications of the ACM*, 24(12):813–825, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Gallant:1988:CES**
- [Gal88] Stephen I. Gallant. Connectionist expert systems. *Communications of the ACM*, 31(2):152–169, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214977.html>. includes excursion on the Pocket Algorithm.



- [Gar82] **Gargantini:1982:EWR**  
I. Gargantini. An effective way to represent quadrees. *Communications of the ACM*, 25(12):905–910, December 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gar88] Pankaj K. Garg. Abstraction mechanisms in hypertext. *Communications of the ACM*, 31(7):862–870, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48516.html>.
- [Gau81] **Gauss:1981:PBC**  
E. J. Gauss. Pracniques: Built-in checklist reduces file destruction. *Communications of the ACM*, 24(2):73–??, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gau82] **Gauss:1982:PWF**  
E. J. Gauss. Pracniques: The “wolf fence” algorithm for debugging. *Communications of the ACM*, 25(11):780–??, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GB88] **Ginzberg:1988:MCT**  
Michael J. Ginzberg and Jack J. Baroudi. MIS careers — a theoretical perspective. *Communications of the ACM*, 31(5):586–594, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GBL+87] **Gould:1987:OMS**  
John D. Gould, Stephen J. Boies, Stephen Levy, John T. Richards, and Jim Schoonard. The 1984 Olympic Message System: a test of behavioral principles of system design. *Communications of the ACM*, 30(9):758–769, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30402.html>.
- [GCH83] **Gould:1983:CLS**  
J. D. Gould, J. Conti, and T. Hovanyecz. Composing letters with a simulated listening typewriter. *Communications of the ACM*, 26(4):295–308, April 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gei84] **Geils:1984:WSR**  
John W. Geils. Why students reject engineering teaching careers. *Communications of the ACM*, 27(1):25–27, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gem89] **Gemignani:1989:VCL**  
Michael Gemignani. Viruses and criminal law. *Communications of the ACM*, 32(6):669–671, 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- Gerasch:1988:IAM**
- [Ger88] Thomas E. Gerasch. An insertion algorithm for a minimal internal path length binary search tree. *Communications of the ACM*, 31(5):579–585, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42421.html>.
- Genesereth:1985:LP**
- [GG85a] Michael R. Genesereth and Matthew L. Ginsberg. Logic programming. *Communications of the ACM*, 28(9):933–941, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4287.html>.
- Gostl:1985:AQT**
- [GG85b] Jack Gostl and Irwin Greenberg. An application of queuing theory to the design of a message-switching computer system. *Communications of the ACM*, 28(5):500–505, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3535.html>.
- Gold:1980:SRE**
- [GGW80] Charles L. Gold, Seymour E. Goodman, and Benjamin G. Walker. Software: Recommendations for an export control policy. *Communications of the ACM*, 23(4):199–207, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Gelperin:1988:GST**
- [GH88] D. Gelperin and B. Hetzel. The growth of software testing. *Communications of the ACM*, 31(6):687–695, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62965.html>.
- Guo:1989:CPT**
- [GH89a] Zicheng Guo and Richard W. Hall. Corrigenda: “Parallel Thinning with Two-Sub-Iteration Algorithms”. *Communications of the ACM*, 32(6):759, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [GH89b].
- Guo:1989:PTT**
- [GH89b] Zicheng Guo and Richard W. Hall. Parallel thinning with two-subiteration algorithms. *Communications of the ACM*, 32(3):359–373, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62074.html>. See corrigendum [GH89a].
- Gass:1981:DMH**
- [GHJ<sup>+</sup>81] Saul I. Gass, Karla L. Hoffman, Richard H. F. Jackson, Lambert S. Joel, and Patsy B. Saunders. Documentation for

- a model: a hierarchical approach. *Communications of the ACM*, 24(11):728–733, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gib89] **Gibbs:1989:SEP**  
N. E. Gibbs. The SEI education program: the challenge of teaching future software engineers. *Communications of the ACM*, 32(5):594–605, May 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63490.html>.
- [Gid84] **Giddings:1984:AUS**  
Richard V. Giddings. Accommodating uncertainty in software design. *Communications of the ACM*, 27(5):428–434, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gil80] **Gill:1980:HBS**  
Arthur Gill. Hierarchical binary search. *Communications of the ACM*, 23(5):294–300, May 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gil82] **Gillenson:1982:SPD**  
Mark L. Gillenson. The state of practice of data administration—1981. *Communications of the ACM*, 25(10):699–706, October 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gil87] **Gillenson:1987:DDS**  
Mark L. Gillenson. The duality of database structures and design techniques. *Communications of the ACM*, 30(12):1056–1065, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/33451.html>.
- [Gin83] **Ginzberg:1983:ITP**  
Michael J. Ginzberg. Introduction: Three papers from the Third International Conference on Information Systems. *Communications of the ACM*, 26(5):339–??, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gis81] **Gischer:1981:SLP**  
Jay Gischer. Shuffle languages, Petri nets, and context-sensitive grammars. *Communications of the ACM*, 24(9):597–605, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GJ82] **Gifford:1982:CSI**  
D. K. Gifford and A. K. Jones. Cryptographic sealing for information security and authentication. *Communications of the ACM*, 25(4):274–286, April 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [GK82] **Gustafson:1982:SPE**  
G. G. Gustafson and Roberta J. Kerr. Some practical experience with a software quality assurance program. *Communications of the ACM*, 25(1):4–12, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GKB86] **Gannon:1986:MAP**  
J. D. Gannon, E. E. Katz, and V. R. Basili. Metrics for Ada packages: an initial study. *Communications of the ACM*, 29(7):616–623, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6144.html>.
- [GKW85] **Gurd:1985:MPD**  
J. R. Gurd, C. C. Kirkham, and I. Watson. The Manchester prototype dataflow computer. *Communications of the ACM*, 28(1):34–52, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2468.html>.
- [GL83a] **Gardner:1983:NRI**  
David P. Gardner and Yvonne W. Larsen. A nation at risk: The imperative for educational reform, report by The National Commission on Excellence in Education. *Communications of the ACM*, 26(7):467–478, July 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GL83b] **Girill:1983:DIO**  
T. R. Girill and Clement H. Luk. Document: An interactive, on-line solution to four documentation problems. *Communications of the ACM*, 26(5):328–337, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GL84] **Glinert:1984:LFV**  
E. P. Glinert and R. E. Ladner. A large font virtual terminal interface: a software prosthesis for the visually impaired. *Communications of the ACM*, 27(6):567–572, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GL85] **Gould:1985:DUK**  
John D. Gould and Clayton Lewis. Designing for usability: key principles and what designers think. *Communications of the ACM*, 28(3):300–311, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3170.html>.
- [Gla80] **Glass:1980:RTL**  
Robert L. Glass. Real-time: The “lost world” of software debugging and testing. *Communications of the ACM*, 23(5):264–271, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- Gries:1988:TS**
- [GM88] D. Gries and D. Marsh. The 1986–1987 Taulbee survey. *Communications of the ACM*, 31(8): 984–991, August 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63034.html>.
- Gries:1989:TS**
- [GM89] David Gries and Dorothy Marsh. The 1987 — 1988 Taulbee survey. *Communications of the ACM*, 32(10):1217–1224, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67938.html>.
- Gries:1986:IBG**
- [GMRY86] D. Gries, R. Miller, R. Ritchie, and P. Young. Imbalance between growth and funding in academic computer science: Two trends colliding. *Communications of the ACM*, 29(9):870–878, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6596.html>.
- Gifford:1988:CFS**
- [GNS88] David K. Gifford, Roger M. Needham, and Michael D. Schroeder. The Cedar file system. *Communications of the ACM*, 31(3):288–298, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42398.html>.
- Greenberg:1981:RSS**
- [GO81] Harvey J. Greenberg and Richard P. O’Neill. Representing super-sparse matrices with perturbed values. *Communications of the ACM*, 24(7):451–456, July 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Goldberg:1986:PLa**
- [Gol86a] Adele Goldberg. President’s letter. *Communications of the ACM*, 29(2):84–85, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Goldberg:1986:PLb**
- [Gol86b] Adele Goldberg. President’s letter. *Communications of the ACM*, 29(6):466–467, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Gomaa:1984:SDM**
- [Gom84] Hassan Gomaa. A software design method for real-time systems. *Communications of the ACM*, 27(9):938–949, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Gomaa:1986:SDR**
- [Gom86] Hassan Gomaa. Software development of real-time systems. *Communications of the ACM*,

- 29(7):657–668, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6150.html>.
- [Gon83] **Gonnet:1983:BBT** Gaston H. Gonnet. Balancing binary trees by internal path reduction. *Communications of the ACM*, 26(12):1074–1081, December 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Goo82] **Goodman:1982:UCE** Seymour E. Goodman. U.S. computer export control policies: Value conflicts and policy choices. *Communications of the ACM*, 25(9):613–623, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Goo87] **Goodwin:1987:FU** Nancy C. Goodwin. Functionality and usability. *Communications of the ACM*, 30(3):229–233, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214758.html>.
- [Gor88] **Gordon:1988:PGA** M. Gordon. Probabilistic and genetic algorithms in document retrieval. *Communications of the ACM*, 31(10):1208–1218, October 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63044.html>.
- [Gou82] **Gourd:1982:SAP** Roger S. Gourd. Self-assessment procedure X: a self-assessment procedure dealing with software project management. *Communications of the ACM*, 25(12):883–887, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gou86] **Gourlay:1986:LMP** John S. Gourlay. A language for music printing. *Communications of the ACM*, 29(5):388–401, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5690.html>.
- [GP86] **Golden:1986:SMF** Donald Golden and Michael Pechura. The structure of microcomputer file systems. *Communications of the ACM*, 29(3):222–230, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5668.html>.
- [Gra84] **Graham:1984:LPC** Robert L. Graham. The legal protection of computer software. *Communications of the ACM*, 27(5):422–426, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Gremillion:1982:DBF**

- [Gre82] L. L. Gremillion. Designing a Bloom filter for differential file access. *Communications of the ACM*, 25(9):600–604, September 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Gremillion:1984:DPR**

- [Gre84] Lee L. Gremillion. Determinants of program repair maintenance requirements. *Communications of the ACM*, 27(8):826–832, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Greenberg:1988:CAL**

- [Gre88] Donald P. Greenberg. Coons award lecture. *Communications of the ACM*, 31(2):122–129, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214972.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42374.html>.

**Gries:1986:TS**

- [Gri86] David Gries. The 1984–1985 Taulbee survey. *Communications of the ACM*, 29(10):972–977, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6631.html>.

**Gries:1987:TS**

- [Gri87] David Gries. The 1985–1986 Taulbee survey. *Communications of the ACM*, 30(8):688–694, August 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/27654.html>.

**Grossman:1986:ORN**

- [Gro86] David D. Grossman. Opportunities for research on numerical control machining. *Communications of the ACM*, 29(6):515–522, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5951.html>.

**Grudin:1989:CAU**

- [Gru89] Jonathan Grudin. The case against user interface consistency. *Communications of the ACM*, 32(10):1164–1173, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67934.html>.

**Gilchrist:1982:ISE**

- [GS82] Bruce Gilchrist and Arlaana Shenkin. The impact of scanners on employment in supermarkets. *Communications of the ACM*, 25(7):441–445, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [GS84a] **Gifford:1984:TRS**  
D. Gifford and A. Spector. The TWA reservation system. *Communications of the ACM*, 27(7):649–669, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GS84b] **Gifford:1984:SSP**  
David K. Gifford and Alfred Z. Spector. The Space Shuttle primary computer system. *Communications of the ACM*, 27(9):872–900, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GS85] **Gifford:1985:CBN**  
David Gifford and Alfred Spector. The CIRRUS banking network. *Communications of the ACM*, 28(8):798–807, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4022.html>.
- [GS87a] **Gifford:1987:CSI**  
David Gifford and Alfred Spector. Case study: IBM’s system/360–370 architecture. *Communications of the ACM*, 30(4):291–307, April 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32233.html>.
- [GS87b] **Griffiths:1987:TLR**  
Georgia Griffiths and G. Carlyle Stones. The tea-leaf reader algorithm: an efficient implementation of CRC-16 and CRC-32. *Communications of the ACM*, 30(7):617–620, July 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/28572.html>.
- [GS89] **Gibson:1989:SSS**  
Virginia R. Gibson and James A. Senn. System structure and software maintenance performance. *Communications of the ACM*, 32(3):347–358, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62073.html>.
- [GT83] **Gonnet:1983:CAD**  
G. Gonnet and F. W. Tompa. A constructive approach to the design of algorithms and their data structures. *Communications of the ACM*, 26(11):912–920, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [GT86] **Gibbs:1986:MCL**  
Norman E. Gibbs and Allen B. Tucker. A model curriculum for a liberal arts degree in computer science. *Communications of the ACM*, 29(3):202–210, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5667.html>.



- [Gui83] **Guimaraes:1983:MAP**  
Tor Guimaraes. Managing application program maintenance expenditures. *Communications of the ACM*, 26(10):739–746, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gui85] **Guimaraes:1985:SAP**  
Tor Guimaraes. A study of application program development techniques. *Communications of the ACM*, 28(5):494–499, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3534.html>.
- [Gup84] **Gupta:1984:SAP**  
Gopal K. Gupta. Self-assessment procedure XIII: a self-assessment procedure dealing with binary trees and B-trees. *Communications of the ACM*, 27(5):435–443, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Gus78] **Gustavson:1978:RSM**  
Fred G. Gustavson. Remark on “Algorithm 408: A Sparse Matrix Package (Part I) [F4]”. *ACM Transactions on Mathematical Software*, 4(3):295, September 1978. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [McN71].
- [Gus88] **Gustafson:1988:RAL**  
John L. Gustafson. Reevaluating Amdahl’s law. *Communications of the ACM*, 31(5):532–533, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42415.html>.
- [Gut85] **Gutknecht:1985:CTE**  
J. Gutknecht. Concepts of the text editor Lara. *Communications of the ACM*, 28(9):942–960, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4288.html>.
- [Gut88] **Guthery:1988:STP**  
S. B. Guthery. Self-timing programs and the quantum scheduler. *Communications of the ACM*, 31(6):696–702, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62966.html>.
- [Guy88] **Guynes:1988:ISR**  
Jan L. Guynes. Impact of system response time on state anxiety. *Communications of the ACM*, 31(3):342–347, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42402.html>.
- [GWWJ84] **Good:1984:BUD**  
M. D. Good, J. A. Whiteside, D. R. Wixon, and S. J. Jones.

- Building a user-derived interface. *Communications of the ACM*, 27 (9):1032–1043, September 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Hal89b]
- [GWY89] David Gries, Terry M. Walker, and Paul Young. The 1988 Snowbird report: a discipline matures. *Communications of the ACM*, 32 (3):294–297, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62066.html>.
- [Hal88] Frank G. Halasz. Reflections on NoteCards: seven issues for the next generation of hypermedia systems. *Communications of the ACM*, 31(7):836–855, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48514.html>.
- [Hal89a] R. W. Hall. Fast parallel thinning algorithms: Parallel speed and connectivity preservation. *Communications of the ACM*, 32(1):124–131, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63248.html>. See corrigendum [Hal89b].
- Richard W. Hall. Corrigenda: “Fast Parallel Thinning Algorithms: Parallel Speed and Connectivity Preservation”. *Communications of the ACM*, 32 (6):759–760, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Hal89a].
- Richard G. Hamlet. Introduction to special section on software testing. *Communications of the ACM*, 31(6):662–667, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62962.html>.
- [Han83] James V. Hansen. Audit considerations in distributed processing systems. *Communications of the ACM*, 26(8):562–569, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Har71] M. C. Harrison. Implementation of the substring test by hashing. *Communications of the ACM*, 14(12):777–779, December 1971. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [TT82].
- David Harel. On folk theorems. *Communications of the ACM*, 23

**Hall:1989:CFP****Gries:1989:SRD****Hamlet:1988:ISS****Halasz:1988:RNS****Hansen:1983:ACD****Hall:1989:FPT****Harrison:1971:IST****Harel:1980:FT**

- (7):379–389, July 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [HC84]
- [Har88] David Harel. On visual formalisms. *Communications of the ACM*, 31(5):514–530, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42414.html>.
- [Has84] James A. Haskett. Pass-algorithms: a user validation scheme based on knowledge of secret algorithms. *Communications of the ACM*, 27(8):777–781, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Hay84] Edward F. Hayes. Access to supercomputers: An NSF perspective (interview). *Communications of the ACM*, 27(4):299–303, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Hay86] Manny Hayes. Accessing bit fields in FORTRAN-77. *Communications of the ACM*, 29(10):991–995, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6620.html>.
- [Hic84] Tim Hickey and Jacques Cohen. Performance analysis of on-the-fly garbage collection. *Communications of the ACM*, 27(11):1143–1154, November 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Hic86] Warren Harrison and Curtis R. Cook. A note on the Berry-Meekings style metric. *Communications of the ACM*, 29(2):123–125, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5660.html>.
- [Hic87] James P. Held and John V. Carlis. MATCH: a new high-level relational operator for pattern matching. *Communications of the ACM*, 30(1):62–75, January 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7889.html>.
- [Hic88] Richard C. Holt and James R. Cordy. The Turing programming language. *Communications of the ACM*, 31(12):1410–1423, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/1410.html>.

- acm.org/pubs/toc/Abstracts/0001-0782/53581.html.
- [Hec88] Paul S. Heckbert. Ray tracing Jell-O brand gelatin. *Communications of the ACM*, 31(2): 130–134, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214974.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42375.html>.
- [Heh84a] Eric C. R. Hehner. Corrigendum: “Predicative programming. I, II”. *Communications of the ACM*, 27(6):593, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Heh84b, Heh84c].
- [Heh84b] Eric C. R. Hehner. Predicative programming, Part I. *Communications of the ACM*, 27(2): 134–143, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigendum [Heh84a].
- [Heh84c] Eric C. R. Hehner. Predicative programming, Part II. *Communications of the ACM*, 27(2): 144–151, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigendum [Heh84a].
- [HH87] J. H. Hester and D. H. Hirschberg. Self-organizing search lists using probabilistic back-pointers. *Communications of the ACM*, 30(12):1074–1079, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/33453.html>.
- [HH88] Wilfred J. Hansen and Christina Haas. Reading and writing with computers: a framework for explaining differences in performance. *Communications of the ACM*, 31(9):1080–1089, September 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48532.html>.
- [HHH<sup>+</sup>87] C. A. R. Hoare, I. J. Hayes, Jifeng He, C. C. Morgan, A. W. Roscoe, J. W. Sanders, I. H. Sorensen, J. M. Spivey, and B. A. Sufrin. Corrigenda: “Laws of programming”. *Communications of the ACM*, 30(9): 770, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30407.html>. See [HHJ<sup>+</sup>87].

**Hoare:1987:LP**

- [HHJ<sup>+</sup>87] C. A. R. Hoare, I. J. Hayes, He Jifeng, C. C. Morgan, A. W. Roscoe, J. W. Sanders, I. H. Sørensen, J. M. Spivey, and B. A. Sufrin. Laws of programming. *Communications of the ACM*, 30(8):672–686, August 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/27653.html>. See corrigendum [HHH<sup>+</sup>87].

**Hill:1970:SD**

- [Hil70a] G. W. Hill. ACM Algorithm 395: Student’s  $t$ -distribution. *Communications of the ACM*, 13(10):617–619, October 1970. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [eL79, Hil81a].

**Hill:1970:SQ**

- [Hil70b] G. W. Hill. ACM Algorithm 396: Student’s  $t$ -quantiles. *Communications of the ACM*, 13(10):619–620, October 1970. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [Hil81a, Hil81b, eL79].

**Hill:1981:RSD**

- [Hil81a] G. W. Hill. Remark on “Algorithm 395: Student’s  $t$ -Distribution”. *ACM Transactions on Mathematical Software*, 7(2):247–249, June 1981. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [Hil70a, Hil70b, eL79].

**Hill:1981:RSQ**

- [Hil81b] G. W. Hill. Remark on “Algorithm 396: Student’s  $t$ -Quantiles”. *ACM Transactions on Mathematical Software*, 7(2):250–251, June 1981. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [Hil70b].

**Hiltz:1988:PEC**

- [Hil88] Starr Roxanne Hiltz. Productivity enhancement from computer-mediated communication: a systems contingency approach. *Communications of the ACM*, 31(12):1438–1454, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/53583.html>.

**Hinxman:1984:UDU**

- [Hin84] Anthony I. Hinxman. Updating a database in an unsafe environment. *Communications of the ACM*, 27(6):564–566, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Hirschheim:1989:FPI**

- [HK89] Rudy Hirschheim and Heinz K. Klein. Four paradigms of information systems development. *Communications of the ACM*, 32(10):1199–1216, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67937.html>.

- [HKM80] U. Harms, H. Kollakowski, and G. Möller. Remark on “Algorithm 408: A Sparse Matrix Package (Part 1) [F4]”. *ACM Transactions on Mathematical Software*, 6(3):456–457, September 1980. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [McN71].
- [HMM88] Sid L. Huff, Malcolm C. Munro, and Barbara H. Martin. Growth stages of end user computing. *Communications of the ACM*, 31(5):542–550, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42417.html>.
- [HL81] P. Heidelberger and P. A. W. Lewis. Regression-adjusted estimates for regenerative simulations, with graphics. *Communications of the ACM*, 24(4):260–273, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [HL88] Bing-Chao Huang and Michael A. Langston. Practical in-place merging. *Communications of the ACM*, 31(3):348–352, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42403.html>.
- [HM84] James V. Hansen and William F. Messier. A relational approach to decision support for EDP auditing. *Communications of the ACM*, 27(11):1129–1133, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Hoa69] C. A. R. Hoare. An axiomatic basis for computer programming. *Communications of the ACM*, 12(10):576–580, 583, October 1969. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Hoa78a] C. A. R. Hoare. Communicating sequential processes. *Communications of the ACM*, 21(8):666–677, August 1978. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigendum [Hoa78b].
- [Hoa78b] C. A. R. Hoare. Corrigendum: “Communicating Sequential Processes”. *Communications of the ACM*, 21(11):958, November 1978. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Hoa78a].
- [Hoa81] Charles Anthony Richard Hoare. The Emperor’s old clothes. *Communications of the ACM*, 24(2):

75–83, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). This is the 1980 ACM Turing Award Lecture, delivered at ACM'80, Nashville, Tennessee, October 27, 1980.

**Hoare:1983:ABC**

[Hoa83a] C. A. R. Hoare. An axiomatic basis for computer programming (reprint). *Communications of the ACM*, 26(1):53–56, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Hoa69].

**Hoare:1983:CSP**

[Hoa83b] C. A. R. Hoare. Communicating Sequential Processes (reprint). *Communications of the ACM*, 26(1):100–106, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Hoa78a].

**Hofri:1980:DSF**

[Hof80] M. Hofri. Disk scheduling: FCFS vs. SSTF revisited. *Communications of the ACM*, 23(11):645–653, November 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Hopcroft:1986:IRC**

[Hop86] John E. Hopcroft. The impact of robotics on computer science. *Communications of the ACM*, 29(6):486–498, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5949.html>.

[acm.org/pubs/toc/Abstracts/0001-0782/5949.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/5949.html).

**Hopcroft:1987:CSE**

[Hop87] John E. Hopcroft. Computer science: The emergence of a discipline. *Communications of the ACM*, 30(3):198–202, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214750.html>.

**Hora:1983:EIF**

[Hor83] Stephen C. Hora. Estimation of the inverse function for random variate generation. *Communications of the ACM*, 26(5):590–594, May 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**House:1980:CPS**

[Hou80] Roger House. Comments on program specification and testing. *Communications of the ACM*, 23(6):324–331, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Houle:1982:CGD**

[Hou82] P. A. Houle. Comment on gamma deviate generation. *Communications of the ACM*, 25(10):747–748, October 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Houghton:1984:OHS**

[Hou84] R. C. Houghton, Jr. Online help systems: a conspectus. *Communications of the ACM*, 27(2):

- 126–133, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [HR85a]
- [How82] William E. Howden. Contemporary software development environments. *Communications of the ACM*, 25(5):318–329, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [HP67] I. D. Hill and M. C. Pike. ACM Algorithm 299: Chi-squared integral. *Communications of the ACM*, 10(4):243–244, April 1967. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [eL76, HP85].
- [HP85] I. D. Hill and M. C. Pike. Remark on “Algorithm 299: Chi-Squared Integral”. *ACM Transactions on Mathematical Software*, 11(2):185, June 1985. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [HP67, eL76, eL79].
- [HP86] Mike Heck and Martin Plaehn. A workstation model for an interactive graphics system. *Communications of the ACM*, 29(1):30–37, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5468.html>.
- [Hanson:1985:PPP] Stephen José Hanson and Richard R. Rosinski. Programmer perceptions of productivity and programming tools. *Communications of the ACM*, 28(2):180–189, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2791.html>.
- [HR85b] Frederick Hayes-Roth. Rule-based systems. *Communications of the ACM*, 28(9):921–932, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4286.html>.
- [HS80a] Maurice H. Halstead and Victor B. Schneider. Self-assessment procedure VII: a self-assessment procedure dealing with software science. *Communications of the ACM*, 23(8):475–480, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [HS80b] D. S. Hirschberg and J. B. Sinclair. Decentralized extremafinding in circular configurations of processors. *Communications of the ACM*, 23(11):627–628, November 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).



- [HS86a] **Hillis:1986:DPA**  
 W. Daniel Hillis and Guy L. Steele, Jr. Data parallel algorithms. *Communications of the ACM*, 29(12):1170–1183, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7903.html>. HILLIS86.█
- [HS86b] **Howard:1986:CAM**  
 Geoffrey S. Howard and Robert D. Smith. Computer anxiety in management: myth or reality? *Communications of the ACM*, 29(7):611–615, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6143.html>.
- [HS87] **Hillis:1987:UPA**  
 W. Daniel Hillis and Guy L. Steele, Jr. Update to “data parallel algorithms”. *Communications of the ACM*, 30(1):78, January 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7890.html>.
- [HSCP87] **Holt:1987:IPT**  
 Christopher M. Holt, Alan Stewart, Maurice Clint, and Ronald H. Perrott. An improved parallel thinning algorithm. *Communications of the ACM*, 30(2):156–160, February 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/12531.html>.
- [HSS80] **Hall:1980:VOS**  
 Dennis E. Hall, Deborah K. Scherrer, and Joseph S. Svenetek. A virtual operating system. *Communications of the ACM*, 23(9):495–502, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [HSS89] **Hollingsworth:1989:CPI**  
 Walter Hollingsworth, Howard Sachs, and Alan Jay Smith. The Clipper processor: Instruction set architecture and implementation. *Communications of the ACM*, 32(2):200–219, February 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63346.html>.
- [HT81] **Hiltz:1981:EUB**  
 Starr Roxanne Hiltz and Murray Turoff. The evolution of user behavior in a computerized conference system. *Communications of the ACM*, 24(11):739–751, November 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [HT85] **Hiltz:1985:SCM**  
 Starr Roxanne Hiltz and Murray Turoff. Structuring computer-mediated communication systems to avoid information overload. *Communications of the*

- ACM, 28(7):680–689, July 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3895.html>.
- [Hua82] Lo-Keng Hua. *Introduction to number theory*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1982. ISBN 0-387-10818-1. xviii + 572 pp. LCCN QA241 .H7513 1982. Translated from the 1975 Chinese edition *Shu lun tao yin* by Peter Shiu. This is the English edition of Ref. 6 of [Cha84], the book that contains the fundamental prime number functions needed for Chang’s ordered minimal perfect hash functions.
- [HW81] Philip Heidelberger and Peter D. Welch. A spectral method for confidence interval generation and run length control in simulations. *Communications of the ACM*, 24(4):233–245, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [HWNC88] David W. Hamaker, Ian H. Witten, Radford M. Neal, and John G. Cleary. Compress and compact discussed further (letters). *Communications of the ACM*, 31(9):1139, 1140, 1145, September 1988. CO-
- DEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ich84] Jean Ichbiah. Ada: Past, present, future, an interview with Jean Ichbiah, the principle designer of Ada. *Communications of the ACM*, 27(10):990–997, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [IHS86] R. H. Irving, C. A. Higgins, and F. R. Safayeni. Computerized performance monitoring systems: use and abuse. *Communications of the ACM*, 29(8):794–801, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6430.html>.
- [IL84] Blake Ives and Gerard P. Learmonth. The information system as a competitive weapon. *Communications of the ACM*, 27(12):1193–1201, December 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ing81] J. Inglis. Pracniques: Updating a master file — yet one more time. *Communications of the ACM*, 24(5):299–??, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ichbiah:1984:APP****Hua:1982:INT****Irving:1986:CPM****Heidelberger:1981:SMC****Ives:1984:ISC****Hamaker:1988:CCD****Inglis:1981:PUM**

- [INW83] **Ivancevich:1983:OSA**  
John M. Ivancevich, H. Albert Napier, and James C. Wetherbe. Occupational stress, attitudes, and health problems in the information systems professionals. *Communications of the ACM*, 26(10):800–806, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [IOB83] **Ives:1983:MUI**  
Blake Ives, Margrethe H. Olson, and Jack J. Baroudi. The measurement of user information satisfaction. *Communications of the ACM*, 26(10):785–793, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [IR88] **Itai:1988:NBR**  
Alon Itai and Yoav Raz. The number of buffers required for sequential processing of a disk file. *Communications of the ACM*, 31(11):1338–1342, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50095.html>.
- [Iro61] **Irons:1961:SDC**  
Edgar T. Irons. A syntax directed compiler for ALGOL 60. *Communications of the ACM*, 4(1):51–55, January 1961. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Iro83] **Irons:1983:SDC**  
Edgar T. Irons. A syntax directed compiler for ALGOL 60 (reprint). *Communications of the ACM*, 26(1):14–16, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Iro61].
- [Isn82] **Isner:1982:FPM**  
J. F. Isner. A Fortran programming methodology based on data abstraction. *Communications of the ACM*, 25(10):686–698, October 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ive80] **Iverson:1980:NTT**  
Kenneth E. Iverson. Notation as a tool of thought. *Communications of the ACM*, 23(8):444–465, August 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Jac83] **Jacob:1983:UFS**  
Robert J. K. Jacob. Using formal specifications in the design of a human-computer interface. *Communications of the ACM*, 26(4):259–264, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Jae81] **Jaeschke:1981:RHM**  
G. Jaeschke. Reciprocal hashing: a method for generating minimal perfect hashing functions. *Communications of the ACM*, 24(12):829–833, December 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Hash functions, for a key  $x$  in a set  $S$  of positive integers, of the form  $h(x) = (C/(Dx + E)) \bmod$

$N$  are considered. Though the existence of  $h$  is guaranteed, the scheme suffers from many practical problems because of exhaustive nature of the search for  $h$ .

**Jalics:1984:CVP**

- [Jal84] Paul J. Jalics. COBOL vs. PL/1: Some performance comparisons. *Communications of the ACM*, 27(3):216–221, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Jalics:1987:CPN**

- [Jal87] Paul J. Jalics. COBOL on a PC: a new perspective on a language and its performance. *Communications of the ACM*, 30(2):142–154, February 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/12530.html>.

**Jarvenpaa:1988:ILE**

- [Jar88] S. L. Jarvenpaa. The importance of laboratory experimentation in IS research. *Communications of the ACM*, 31(12):1502–1504, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Janssens:1986:AUM**

- [JAV86] M. D. Janssens, J. K. Annot, and A. J. Van De Goor. Adapting UNIX for a multiprocessor environment. *Communications of the ACM*, 29(9):895–901, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317

(electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6598.html>.

**Jain:1985:ADC**

- [JC85] Raj Jain and Imrich Chlamtac. The  $P^2$  algorithm for dynamic calculation of quantiles and histograms without storing observations. *Communications of the ACM*, 28(10):1076–1085, October 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4378.html>.

**Jarvenpaa:1988:GMD**

- [JD88] S. L. Jarvenpaa and G. W. Dickson. Graphics and managerial decision making: research-based guidelines. *Communications of the ACM*, 31(6):764–774, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62971.html>.

**Jalics:1983:TPO**

- [JH83] Paul J. Jalics and Thomas S. Heines. Transporting a portable operating system: UNIX to an IBM minicomputer. *Communications of the ACM*, 26(12):1066–1072, December 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Jacky:1983:GPD**

- [JK83] Jonathan Jacky and Ira Kalet. A general purpose data entry program. *Communications of the*

*ACM*, 26(6):409–417, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Jacky:1987:OOP**

- [JK87] Jonathan P. Jacky and Ira J. Kalet. An object-oriented programming discipline for standard Pascal. *Communications of the ACM*, 30(9):772–776, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30403.html>.

**Jacobson:1982:AQN**

- [JL82] P. A. Jacobson and E. D. Lazowska. Analyzing queueing networks with simultaneous resource possession. *Communications of the ACM*, 25(2):142–151, February 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Jalics:1989:COD**

- [JM89] P. J. Jalics and D. R. McIntyre. Caching and other disk access avoidance techniques on personal computers. *Communications of the ACM*, 32(2):246–255, February 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63349.html>.

**Jaeschke:1980:TCC**

- [JO80] G. Jaeschke and G. Osterburg. Technical correspondence: On Cichelli’s minimal perfect hash

functions method. *Communications of the ACM*, 23(12):728–729, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). This letter to the editor contains comments on [Cic80a], together with a response from R. J. Cichelli [Cic80b].

**Jones:1984:IIU**

- [Jon84] Douglas W. Jones. Improved interpretation of UNIX-like file names embedded in data. *Communications of the ACM*, 27(8):782–784, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Jones:1986:ECP**

- [Jon86] Douglas W. Jones. An empirical comparison of priority-queue and event-set implementations. *Communications of the ACM*, 29(4):300–311, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5686.html>. See [KJ85].

**Jones:1988:AST**

- [Jon88] Douglas W. Jones. Application of splay trees to data compression. *Communications of the ACM*, 31(8):996–1007, August 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63036.html>.

**Jones:1989:COP**

- [Jon89] Douglas W. Jones. Concurrent operations on priority queues. *Communications of the ACM*, 32(1):132–137, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63249.html>.

**Jakes:1989:BPP**

- [JY89] J. Michael Jakes and E. Robert Yoche. Basic principles of patent protection for computer software. *Communications of the ACM*, 32(8):922–924, 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kahn:1983:SRD**

- [Kah83] Beverly K. Kahn. Some realities of data administration. *Communications of the ACM*, 26(10):794–799, October 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kaiser:1981:AEA**

- [Kai81] Gail E. Kaiser. Automatic extension of an ATN knowledge base. *Communications of the ACM*, 24(9):587–593, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kang:1989:CHP**

- [Kan89] Y. M. Kang. Computer hardware performance: production and cost function analyses. *Communications of the ACM*, 32

(5):586–593, May 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63489.html>.

**Karp:1986:CCR**

- [Kar86] Richard M. Karp. Combinatorics, complexity, and randomness. *Communications of the ACM*, 29(2):98–109, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5658.html>. This is the 1985 ACM Turing Award Lecture. It traces the development of combinatorial optimization and computational complexity theory. It discusses probabilistic algorithms and probabilistic analysis of approximation algorithms for *NP*-complete optimization problems.

**Kuki:1973:SSA**

- [KC73] H. Kuki and W. J. Cody. A statistical study of the accuracy of floating point number systems. *Communications of the ACM*, 16(4):223–230, April 1973. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kuki:1983:SSA**

- [KC83] H. Kuki and W. J. Cody. A statistical study of the accuracy of floating point number systems (reprint). *Communications of the ACM*, 26(1):79–83, January 1983. CODEN CACMA2.

- ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [KC73].
- [KD80] **Kumar:1980:CSD**  
B. Kumar and E. S. Davidson. Computer system design using a hierarchical approach to performance evaluation. *Communications of the ACM*, 23(9): 511–521, September 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [KDK89] **Kraut:1989:CPQ**  
Robert E. Kraut, Susan T. Dumais, and Susan Koch. Computerization, productivity, and quality of work-life. *Communications of the ACM*, 32(2): 220–238, February 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63347.html>.
- [Kea82] **Kearsley:1982:ASC**  
Greg Kearsley. Authoring systems in computer based education. *Communications of the ACM*, 25(7):429–437, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Kee81] **Keen:1981:ISO**  
Peter G. W. Keen. Information systems and organizational change. *Communications of the ACM*, 24(1):24–33, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Kel85] **Kelton:1985:TEE**  
W. David Kelton. Transient exponential-Erlang queues and steady-state simulation. *Communications of the ACM*, 28(7):741–749, July 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3900.html>.
- [Kem87a] **Kemerer:1987:CEV**  
Chris F. Kemerer. Corrigenda: “An Empirical Validation of Software Cost Estimation Models”. *Communications of the ACM*, 30(9):770, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30406.html>. See [Kem87b].
- [Kem87b] **Kemerer:1987:EVS**  
Chris F. Kemerer. An empirical validation of software cost estimation models. *Communications of the ACM*, 30(5):416–429, May 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/22906.html>. See corrigendum [Kem87a].
- [Ken80] **Kent:1980:TCS**  
Stephen T. Kent. Technical correspondence: On secure personal computing. *Communications of the ACM*, 23(1):35–36, January 1980. CODEN CACMA2.

- ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ken83] **Kent:1983:SGF** W. Kent. A simple guide to five normal forms in relational database theory. *Communications of the ACM*, 26(2):120–125, February 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprinted in A. R. Hurson, L. L. Miller, and S. H. Pakzad, *Parallel Architectures for Database Systems*, IEEE Computer Society Press, Washington, DC, 1989.
- [KJ85] **Kubale:1985:GIE** Marek Kubale and Boguslaw Jackowski. A generalized implicit enumeration algorithm for graph coloring. *Communications of the ACM*, 28(4):412–418, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3350.html>.
- [KJ85] **Kessels:1983:FOD** Joep L. W. Kessels. On-the-fly optimization of data structures. *Communications of the ACM*, 26(11):895–901, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [KJ85] **King:1984:EOI** John Leslie King and Kenneth L. Kraemer. Evolution and organizational information systems: An assessment of Nolan’s stage model. *Communications of the ACM*, 27(5):466–475, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Kes83] **Kling:1984:CIS** Rob Kling and Suzanne Iacono. The control of information systems developments after implementation. *Communications of the ACM*, 27(12):1218–1226, December 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [KJ84] **Kuo:1988:UID** Feng-Yang Kuo and Jahangir Karimi. User interface design from a real time perspective. *Communications of the ACM*, 31(12):1456–1466, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/53584.html>.
- [KJ84] **Korsh:1983:MSM** James F. Korsh and Gary Laison. A multiple-stack manipulation procedure. *Communications of the ACM*, 26(11):921–923, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [KJ84] **Kubale:1984:GIE** Marek Kubale and Boguslaw Jackowski. A generalized implicit enumeration algorithm for graph coloring. *Communications of the ACM*, 28(4):412–418, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [KL83] **Kling:1984:CIS** Rob Kling and Suzanne Iacono. The control of information systems developments after implementation. *Communications of the ACM*, 27(12):1218–1226, December 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).



- Kay:1988:FSS**
- [KL88] J. Kay and P. Lauder. A fair share scheduler. *Communications of the ACM*, 31(1): 44–55, January 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/35047.html>.
- Kleinrock:1985:DS**
- [Kle85] Leonard Kleinrock. Distributed systems. *Communications of the ACM*, 28(11):1200–1213, November 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4552.html>.
- Kearns:1987:LBF**
- [KLPV87] M. Kearns, M. Li, L. Pitt, and L. G. Valiant. On the learnability of Boolean formulae. In A. V. Aho, editor, *Proceedings of the nineteenth annual ACM Symposium on Theory of Computing, New York City, May 25–27, 1987*, pages 285–295. ACM Press, New York, NY 10036, USA, 1987. ISBN 0-89791-221-7. LCCN QA 76.6 A13 1987.
- Knuth:1977:FPM**
- [KMP77] Donald E. Knuth, J. H. Morris, and V. R. Pratt. Fast pattern matching in strings. *SIAM Journal on Computing*, 6(2):323–350, June 1977. CODEN SMJ-CAT. ISSN 0097-5397 (print), 1095-7111 (electronic). See also [BM77] and [Sun90].
- Kang:1986:CGL**
- [KMP86] Young Moo Kang, Robert B. Miller, and Roger Alan Pick. Comments on “Grosch’s law revisited: CPU power and the cost of computation”. *Communications of the ACM*, 29(8): 779–781, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6441.html>.
- Koffman:1984:RCC**
- [KMW84] Elliot B. Koffman, Philip L. Miller, and Caroline E. Wardle. Recommended curriculum for CS1, 1984. *Communications of the ACM*, 27(10): 998–1001, October 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Kahane:1988:CBP**
- [KNT88] Yehuda Kahane, Seev Neumann, and Charles S. Tapiero. Computer backup pools, disaster recovery, and default risk. *Communications of the ACM*, 31(1):78–83, January 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/35050.html>.
- Knuth:1973:ACP**
- [Knu73] D. E. Knuth. *The Art of Computer Programming, Sorting and*

- Searching*, volume 3. Addison-Wesley, Reading, MA, USA, 1973. ISBN 0-201-03803-X. xi + 723 pp. LCCN QA76.5 .K74.
- [Knu84a] Donald E. Knuth. The complexity of songs (April 1984 special section). *Communications of the ACM*, 27(4):344–348, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigendum [Knu84b].
- [Knu84b] Donald E. Knuth. Corrigendum: “The complexity of songs”. *Communications of the ACM*, 27(6):593, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Knu84a].
- [Knu92] Donald E. Knuth. *Literate Programming*, volume 27 of *CSLI Lecture Notes*. Stanford University Center for the Study of Language and Information, Stanford, CA, USA, 1992. ISBN 0-937073-80-6 (paperback), 0-937073-81-4 (hardcover). xv + 368 pp. LCCN QA76.6.K644. URL <http://csli-www.stanford.edu/publications/literate.html>.
- [Koc89a] Bryan Kocher. A hygiene lesson. *Communications of the ACM*, 32(1):3, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Koc89b] Bryan Kocher. President’s letter. *Communications of the ACM*, 32(3):292–293, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Koo86] Raymond F. Koopman. The orders of equidistribution of subsequences of some asymptotically random sequences. *Communications of the ACM*, 29(8):802–806, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6431.html>.
- [Kor70] S. M. Korman. The graph-colouring problem. In N. Christofides, A. Mingozzi, P. Toth, and C. Sandi, editors, *Combinatorial Optimization*, pages 211–235. Wiley, New York, NY, USA, 1970. See [KJ85].
- [Kor82] William A. Kornfeld. Combinatorially implausible algorithms. *Communications of the ACM*, 25(10):734–738, October 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Kow88] Robert A. Kowalski. The early years of logic programming. *Communications of the ACM*, 31

(1):38–43, January 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/35046.html>.

**Karp:1981:ERPa**

[KR81]

R. M. Karp and M. O. Rabin. Efficient randomized pattern-matching algorithms. Technical report TR-31-81, Harvard University, Cambridge, MA, USA, ?? 1981. ?? pp. An incremental hash function is described for application to the string search problem. See [BYG92].

**Krull:1981:EIH**

[Kru81]

Fred N. Krull. Experience with ILIAD: a high-level process control language. *Communications of the ACM*, 24(2):66–72, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kirkpatrick:1984:SMD**

[KS84]

Scott Kirkpatrick and Robert H. Swendsen. Statistical mechanics and disordered systems. *Communications of the ACM*, 28(4):363–373, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kirkpatrick:1985:SMD**

[KS85]

Scott Kirkpatrick and Robert H. Swendsen. Statistical mechanics and disordered systems. *Communications of the ACM*, 28(4):363–373, April 1985. CODEN CACMA2. ISSN 0001-

0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3344.html>.

**Koved:1986:EMS**

[KS86]

Larry Koved and Ben Schneiderman. Embedded menus: selecting items in context. *Communications of the ACM*, 29(4):312–318, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5687.html>.

**Kachitvichyanukul:1988:BRV**

[KS88]

Voratas Kachitvichyanukul and Bruce W. Schmeiser. Binomial random variate generation. *Communications of the ACM*, 31(2):216–222, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214994.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42381.html>.

**Kantorowitz:1989:AUI**

[KS89]

Eliezer Kantorowitz and Oded Sudarsky. The adaptable user interface. *Communications of the ACM*, 32(11):1352–1358, November 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/68820.html>.

**Krishna:1984:OCC**

- [KSL84] C. M. Krishna, Kang G. Shin, and Yann-Hang Lee. Optimization criteria for checkpoint placement. *Communications of the ACM*, 27(10):1008–1012, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kearney:1986:SCM**

- [KST<sup>+</sup>86] Joseph P. Kearney, Robert L. Sedlmeyer, William B. Thompson, Michael A. Gray, and Michael A. Adler. Software complexity measurement. *Communications of the ACM*, 29(11):1044–1050, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7540.html>.

**Koffman:1985:RCC**

- [KSW85] Elliot B. Koffman, David Stemple, and Caroline E. Wardle. Recommended curriculum for CS2, 1984: a report of the ACM curriculum task force for CS2. *Communications of the ACM*, 28(8):815–818, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214936.html>.

**Kundu:1988:ESR**

- [Kun88] Sukhamay Kundu. The equivalence of the subregion representation and the wall representation

for a certain class of rectangular dissections. *Communications of the ACM*, 31(6):752–763, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62970.html>.

**Kusserow:1984:GNC**

- [Kus84] R. P. Kusserow. The government needs computer matching to root out waste and fraud. *Communications of the ACM*, 27(6):542, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kleijnen:1983:PCC**

- [KV83] Jack P. C. Kleijnen and Anton J. Van Reeken. Principles of computer charging in a university-type organization. *Communications of the ACM*, 26(11):926–932, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kaunitz:1984:ATC**

- [KvE84] John Kaunitz and Louis van Ekerdt. Audit trail compaction for database recovery. *Communications of the ACM*, 27(7):678–683, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Kwok:1988:TAC**

- [Kwo88] Paul C. K. Kwok. A thinning algorithm by contour generation. *Communications of the ACM*, 31(11):1314–1324, November 1988.

CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50092.html>.

**Konvalina:1983:MPK**

- [KWS83] John Konvalina, Stanley A. Wilerman, and Larry J. Stephens. Math proficiency: a key to success for computer science students. *Communications of the ACM*, 26(5):377–381, May 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ladner:1989:CAF**

- [Lad89] Richard E. Ladner. Computer accessibility for federal workers with disabilities: it's the law. *Communications of the ACM*, 32(8):952–956, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65974.html>.

**Lamport:1981:TNP**

- [Lam81] Leslie Lamport. Technical note: Password authentication with insecure communication. *Communications of the ACM*, 24(11):770–772, November 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lam:1988:ESC**

- [Lam88] S. F. Lam. An empirical study of computer capacity planning in Japan. *Communications of the ACM*, 31(8):965–976, August

1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63032.html>.

**Lamport:1989:SAS**

- [Lam89] Leslie Lamport. A simple approach to specifying concurrent systems. *Communications of the ACM*, 32(1):32–45, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63240.html>.

**Langdon:1986:SAP**

- [Lan86] Glen G. Langdon, Jr. Self-assessment to specifying concurrent systems. *Communications of the ACM*, 29(11):1051–1060, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7543.html>.

**Larson:1988:DHT**

- [Lar88] Per-Åke Larson. Dynamic hash tables. *Communications of the ACM*, 31(4):446–457, April 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42410.html>.

**Lautrup:1984:MCM**

- [Lau84] B. Lautrup. Monte Carlo methods in theoretical high-energy

physics. *Communications of the ACM*, 28(4):358–362, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Laudon:1985:EIM**

- [Lau85a] Kenneth C. Laudon. Environmental and institutional models of system development: a national criminal history system. *Communications of the ACM*, 28(7):728–740, July 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3899.html>. [LB84a]

**Lautrup:1985:MCM**

- [Lau85b] B. Lautrup. Monte Carlo methods in theoretical high-energy physics. *Communications of the ACM*, 28(4):358–362, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3343.html>. [LB84b]

**Laudon:1986:DQD**

- [Lau86] Kenneth C. Laudon. Data quality and due process in large interorganizational record systems. *Communications of the ACM*, 29(1):4–11, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5466.html>. [LB89]

**Liang:1983:AAP**

- [LB83] You Dong Liang and Brian A. Barsky. An analysis and algo-

rithm for polygon clipping. *Communications of the ACM*, 26(11):868–877, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigenda [LB84b, LB84a].

**Liang:1984:CAAb**

You Dong Liang and Brian A. Barsky. Corrigendum: “An analysis and algorithm for polygon clipping”. *Communications of the ACM*, 27(2):151, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [LB83, LB84b].

**Liang:1984:CAAA**

You Dong Liang and Brian A. Barsky. Corrigendum: “An analysis and algorithm for polygon clipping”. *Communications of the ACM*, 27(4):383, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [LB83, LB84a].

**Lippman:1989:CIS**

Andrew Lippman and William Butera. Coding image sequences for interactive retrieval. *Communications of the ACM*, 32(7):852–860, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65452.html>.

**Landram:1986:SCP**

Frank G. Landram, James R. Cook, and Marvin Johnston.

- Spreadsheet calculations of probabilities from the  $F$ ,  $t$ ,  $\chi^2$ , and normal distribution. *Communications of the ACM*, 29(11): 1090–1092, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7542.html>. [Led86]
- Ledgard:1986:SSH**
- Henry F. Ledgard. Special section on the human aspects of computing: a note on this collection. *Communications of the ACM*, 29(7):593, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214911.html>.
- Lane:1980:SLM**
- [LCWB80] Jeffrey M. Lane, Loren C. Carpenter, J. Turner Whitted, and James F. Blinn. Scan line methods for displaying parametrically defined surfaces. *Communications of the ACM*, 23(1):23–34, January 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Lee80]
- Lee:1980:LAC**
- K. P. Lee. A linear algorithm for copying binary trees using bounded workspace. *Communications of the ACM*, 23(3): 159–162, March 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Lee:1981:RFT**
- [L'E88] Pierre L'Ecuyer. Efficient and portable combined random number generators. *Communications of the ACM*, 31(6):742–749, 774, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62969.html>. [Lee81]
- LEcuyer:1988:EPC**
- John A. N. Lee. Response to the Federal Trade Commission's proposed ruling on standards and certification. *Communications of the ACM*, 24(6):375–380, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Lemos:1985:RMC**
- [Leb88] Michael Lebowitz. The use of memory in text processing. *Communications of the ACM*, 31(12): 1483–1502, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214951.html>. [Lem85]
- Lebowitz:1988:UMT**
- Ronald S. Lemos. Rating the major computing periodicals on readability. *Communications of the ACM*, 28(2): 152–157, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2788.html>.

- [Lev82] **Levy:1982:MSF**  
 Michael R. Levy. Modularity and the sequential file update problem. *Communications of the ACM*, 25(6):362–367, June 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Lev89] **Levin:1989:GCC**  
 Eugene Levin. Grand challenges to computation science. *Communications of the ACM*, 32(12):1456–1457, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/76385.html>.
- [Lew82] **Lew:1982:efd**  
 Art Lew. On the emulation of flowcharts by decision tables. *Communications of the ACM*, 25(12):895–905, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [LGH83] **Landauer:1983:NCN**  
 Thomas K. Landauer, Kathleen M. Galotti, and S. Hartwell. Natural command names and initial learning: a study of text-editing terms. *Communications of the ACM*, 26(7):495–503, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [LH83] **Lieberman:1983:RTG**  
 Henry Lieberman and Carl Hewitt. A real-time garbage collector based on the lifetimes of objects. *Communications of the ACM*, 26(6):419–429, June 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [LH85] **Larmore:1985:EOP**  
 L. L. Larmore and D. S. Hirschberg. Efficient optimal pagination of scrolls. *Communications of the ACM*, 28(8):854–856, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4026.html>.
- [LH86] **LeMay:1986:OWL**  
 Moira LeMay and Eric Hird. Operator work load: when is enough enough? *Communications of the ACM*, 29(7):638–642, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6147.html>.
- [Lib89] **Libes:1989:CNY**  
 Libes. Choosing a name for your computer. *Communications of the ACM*, 32(11):1289–1291, November 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <ftp://ftp.isi.edu/in-notes/fyi/fyi5.txt>; <ftp://ftp.isi.edu/in-notes/fyi/rfc1178.txt>; <ftp://ftp.math.utah.edu/pub/rfc/fyi5.txt>; <ftp://ftp.math.utah.edu/pub/rfc/rfc1178.txt>. Republished as Internet FYI 5 and RFC 1178.



- [Lic83] **Licker:1983:JAB**  
Paul S. Licker. The Japanese approach: a better way to manage programmers? *Communications of the ACM*, 26(9):631–636, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Lie86] **Lieblein:1986:DDS**  
Edward Lieblein. The Department of Defense software initiative — a status report. *Communications of the ACM*, 29(8):734–744, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6426.html>.
- [Lim82] **Lim:1982:HSD**  
W. Y.-P. Lim. HISDL: a structure description language. *Communications of the ACM*, 25(11):823–830, November 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Lin80] **Ling:1980:GCD**  
Robert F. Ling. General considerations on the design of an interactive system for data analysis. *Communications of the ACM*, 23(3):147–154, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Lin86] **Lindstrom:1986:EO**  
Gary Lindstrom. Elliott I. Organick (1925–1985). *Communications of the ACM*, 29(3):231, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6325.html>.
- [Lis88] **Liskov:1988:DPA**  
Barbara Liskov. Distributed programming in Argus. *Communications of the ACM*, 31(3):300–312, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42399.html>. Comment 1 by Schlenk, Thu Jun 30 16:12:36 1988. Full scale transactions are supported on persistent objects. CLU is used to program the objects.
- [Lit84] **Litke:1984:IST**  
J. D. Litke. An improved solution to the traveling salesman problem with thousands of nodes. *Communications of the ACM*, 27(12):1227–1236, December 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [LK84] **Larson:1984:FOI**  
Per-Åke Larson and Ajay Kajla. File organization: Implementation of a method guaranteeing retrieval in one access. *Communications of the ACM*, 27(7):670–677, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lam:1983:TCA**

- [LL83] Simon S. Lam and Y. Luke Lien. A tree convolution algorithm for the solution of queueing networks. *Communications of the ACM*, 26(3):203–215, March 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Li:1987:ADU**

- [LL87a] Shu-Xiang Li and Murray H. Loew. Adjacency detection using quadcodes. *Communications of the ACM*, 30(7):627–631, July 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/28574.html>.

**Li:1987:QA**

- [LL87b] Shu-Xiang Li and Murray H. Loew. The quadcode and its arithmetic. *Communications of the ACM*, 30(7):621–626, July 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/28573.html>.

**Lageweg:1982:CAC**

- [LLK82] B. J. Lageweg, J. K. Lenstra, and A. H. G. Rinnooy Kan. Computer-aided complexity classification of combinatorial problems. *Communications of the ACM*, 25(11):817–822, November 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lipsky:1982:ABT**

- [LLTvdL82] Lester Lipsky, Chee-Min Henry Lieu, Abolfazl Tehranipour, and Appie van de Liefvoort. On the asymptotic behavior of time-sharing systems. *Communications of the ACM*, 25(10):707–714, October 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Loui:1983:OPG**

- [Lou83] Ronald Prescott Loui. Optimal paths in graphs with stochastic or multidimensional weights. *Communications of the ACM*, 26(9):670–676, September 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Luccio:1980:CGA**

- [LP80] Fabrizio Luccio and Linda Pagli. Comment on generalized AVL trees. *Communications of the ACM*, 23(7):394–395, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lampson:1980:EPM**

- [LR80] Butler W. Lampson and David D. Redell. Experience with processes and monitors in Mesa. *Communications of the ACM*, 23(2):105–117, February 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Litecky:1981:EAR**

- [LR81] Charles R. Litecky and Larry E. Rittenberg. The external auditor's review of computer controls. *Communications of the*

*ACM*, 24(5):288–295, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lee:1982:ACVb**

- [LR82a] Y. T. Lee and A. A. G. Requicha. Algorithms for computing the volume and other integral properties of solids. II. A family of algorithms based on representation conversion and cellular approximation. *Communications of the ACM*, 25(9):642–650, September 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lee:1982:ACVa**

- [LR82b] Yong Tsui Lee and Aristides A. G. Requicha. Algorithms for computing the volume and other integral properties of solids. I. known methods and open issues. *Communications of the ACM*, 25(9):635–641, September 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lientz:1981:PAS**

- [LS81] Bennet P. Lientz and E. Burton Swanson. Problems in application software maintenance. *Communications of the ACM*, 24(11):763–769, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lam:1982:TNC**

- [LS82a] Clement W. H. Lam and Leonard H. Soicher. Three new combination algorithms with the

minimal change property. *Communications of the ACM*, 25(8):555–559, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Langer:1982:DGA**

- [LS82b] A. M. Langer and A. W. Shum. The distribution of granule accesses made by database transactions. *Communications of the ACM*, 25(11):831–832, November 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ledgard:1982:SAT**

- [LS82c] Henry F. Ledgard and Andrew Singer. Scaling down Ada (or towards a Standard Ada Subset). *Communications of the ACM*, 25(2):121–125, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lai:1984:APB**

- [LS84] Ten Hwang Lai and Sartaj Sahni. Anomalies in parallel branch-and-bound algorithms. *Communications of the ACM*, 27(6):594–602, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Lee:1986:PAR**

- [LSS86] John A. Lee, Gerald Segal, and Rosalie Steier. Positive alternatives: a report on an ACM panel on hacking. *Communications of the ACM*, 29(4):297–299, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317

- (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6377.html>. [LW86]
- Lubachevsky:1989:EDE**
- [Lub89] Boris D. Lubachevsky. Efficient distributed event-driven simulations of multiple-loop networks. *Communications of the ACM*, 32(1):111–123, 131, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63247.html>.
- Lucas:1984:OPI**
- [Luc84] Henry C. Lucas, Jr. Organizational power and the information services department. *Communications of the ACM*, 27(1):58–65, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Luk:1983:EBA**
- [Luk83] W. S. Luk. On estimating block accesses in database organizations. *Communications of the ACM*, 26(11):945–947, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [LWSS80]
- Luo:1989:PSA**
- [Luo89] Xue Dong Luo. A practical sieve algorithm for finding prime numbers. *Communications of the ACM*, 32(3):344–346, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62072.html>. [LY89]
- Lu:1986:CFP**
- H. E. Lü and P. S. P. Wang. A comment on “A Fast Parallel Algorithm for Thinning Digital Patterns”. *Communications of the ACM*, 29(3):239–242, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5670.html>.
- Lathrop:1987:APD**
- [LWS87] Richard H. Lathrop, Teresa A. Webster, and Temple F. Smith. ARIADNE: pattern-directed inference and hierarchical abstraction in protein structure recognition. *Communications of the ACM*, 30(11):909–921, November 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32207.html>.
- Ledgard:1980:NLI**
- [LWSS80] Henry F. Ledgard, John A. Whiteside, Andrew Singer, and William Seymour. The natural language of interactive systems. *Communications of the ACM*, 23(10):556–563, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Lefkowitz:1989:RTP**
- [LY89] Saul Lefkowitz and E. Robert Yoche. The role of trademarks in the protection of computer software. *Communications of the ACM*, 32(12):1391–1393, 1396, 1989. CODEN CACMA2.

ISSN 0001-0782 (print), 1557-7317 (electronic).

**Magel:1981:RML**

- [MAB<sup>+</sup>81] Kenneth I. Magel, Richard H. Austing, Alfs Berztiss, Gerald L. Engel, John W. Hamblen, A. A. J. Hoffmann, and Robert Mathis. Recommendations for master's level programs in computer science — a report of the ACM curriculum committee on computer science. *Communications of the ACM*, 24(3):115–123, March 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Madhavji:1984:VAP**

- [Mad84] Nazim H. Madhavji. Visibility aspects of programmed dynamic data structures. *Communications of the ACM*, 27(8):764–776, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Maes:1980:AAC**

- [Mae80] Rik Maes. An algorithmic approach to the conversion of decision grid charts into compressed decision tables. *Communications of the ACM*, 23(5):286–293, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Mantai:1981:EPT**

- [Man81] Marilyn M. Mantai. The effect of programming team structures on programming tasks. *Communications of the ACM*, 24(3):106–113, 1981. CODEN CACMA2.

ISSN 0001-0782 (print), 1557-7317 (electronic).

**Mandelbrot:1982:CCR**

- [Man82] B. B. Mandelbrot. Comment on computer rendering of fractal stochastic models. *Communications of the ACM*, 25(8):581–584, August 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Mandl:1985:OLS**

- [Man85] Robert Mandl. Orthogonal Latin squares: an application of experiment design to compiler testing. *Communications of the ACM*, 28(10):1054–1058, October 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4375.html>.

**Manas:1987:WDS**

- [Mañ87] José A. Mañas. Word division in Spanish. *Communications of the ACM*, 30(7):612–616, July 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/28571.html>.

**Manber:1988:UID**

- [Man88] Udi Manber. Using induction to design algorithms. *Communications of the ACM*, 31(11):1300–1313, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50091.html>.

- [Mar82] **Martin:1982:EGC** Johannes J. Martin. An efficient garbage compaction algorithm. *Communications of the ACM*, 25(8):571–581, August 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Mar83] **Markus:1983:PPM** M. Lynne Markus. Power, politics, and MIS implementation. *Communications of the ACM*, 26(6):430–444, June 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Mar84] **Marcus:1984:AAI** Robert Marcus. An application of artificial intelligence to operations research. *Communications of the ACM*, 27(10):1044–1047, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Mau68] **Maurer:1968:IHS** Ward Douglas Maurer. An improved hashcode for scatter storage. *Communications of the ACM*, 11(1):35–37, January 1968. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Mau83] **Maurer:1983:IHC** W. D. Maurer. An improved hash code for scatter storage (reprint). *Communications of the ACM*, 26(1):36–38, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Mau68].
- [Maz80] **Mazlack:1980:IPA** Lawrence J. Mazlack. Identifying potential to acquire programming skill. *Communications of the ACM*, 23(1):14–17, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [MB76] **Metcalf:1976:EDP** Robert M. Metcalfe and David R. Boggs. Ethernet: Distributed packet switching for local computer networks. *Communications of the ACM*, 19(7):395–404, July 1976. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [MB81] **Mayer:1981:PCL** Richard E. Mayer and Piraye Bayman. Psychology of calculator languages: a framework for describing differences in users' knowledge. *Communications of the ACM*, 24(8):511–520, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [MB83] **Metcalf:1983:EDP** Robert M. Metcalfe and David R. Boggs. Ethernet: Distributed packet switching for local computer networks. *Communications of the ACM*, 26(1):90–95, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [MB76].
- [MB89a] **MacKnight:1989:ETM** Carol B. MacKnight and Santosh Balagopalan. An evalua-

- tion tool for measuring authoring system performance. *Communications of the ACM*, 32(10): 1231–1236, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67940.html>. [MC83]
- McCabe:1989:DCM**
- [MB89b] Thomas J. McCabe and Charles W. Butler. Design complexity measurement and testing. *Communications of the ACM*, 32(12): 1415–1425, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/76382.html>. [McC80]
- Markus:1987:PUE**
- [MBA87] M. Lynne Markus and Niels Bjørn-Andersen. Power over users: its exercise by system professionals. *Communications of the ACM*, 30(6):498–504, June 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214764.html>. [McC82]
- Martin:1985:CSE**
- [MBD<sup>+</sup>85] James Martin, Philip A. Bernstein, Peter J. Denning, Michael L. Dertouzos, and Leonard Kleirock. Computer science education today: a dialogue. *Communications of the ACM*, 28(3):251–262, 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [McC87a]
- Mason:1983:PII**
- R. E. A. Mason and T. T. Carey. Prototyping interactive information systems. *Communications of the ACM*, 26(5):347–354, May 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- McCracken:1980:JWM**
- Daniel D. McCracken. John W. Mauchly: 1907–1980. *Communications of the ACM*, 23(3): 143, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- McCall:1982:PRS**
- Edward H. McCall. Performance results of the simplex algorithm for a set of real-world linear programming models. *Communications of the ACM*, 25(3):207–212, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- McCorduck:1983:IFG**
- [McC83] P. McCorduck. Introduction to the fifth generation. *Communications of the ACM*, 26(9): 629–630, September 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- McCarthy:1987:GAI**
- John McCarthy. Generality in artificial intelligence. *Communications of the ACM*, 30(12): 1030–1035, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (elec-

- tronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/33448.html>. [MD84]
- McCracken:1987:VRC**
- [McC87b] Daniel D. McCracken. Viewpoint: Ruminations on computer science curricula. *Communications of the ACM*, 30(1):3–5, January 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- McCarthy:1989:NCH** [MD89]
- [McC89] John McCarthy. Networks considered harmful for electronic mail. *Communications of the ACM*, 32(12):1389–1390, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- McNamee:1971:SMP**
- [McN71] J. M. McNamee. ACM Algorithm 408: a sparse matrix package (part I). *Communications of the ACM*, 14(4):265–273, April 1971. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [Sip77, Gus78, HKM80].
- Mitchell:1982:CTN**
- [MD82] James G. Mitchell and Jeremy Dion. A comparison of two network-based file servers. *Communications of the ACM*, 25(4):233–245, April 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Mulder:1984:CSP**
- Michael C. Mulder and John F. Dalphin. Computer science program requirements and accreditation, an interim report of the ACM/IEEE Computer Society Joint Task Force. *Communications of the ACM*, 27(4):330–335, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Mackay:1989:VVE**
- Wendy E. Mackay and Glorianna Davenport. Virtual video editing in interactive multimedia applications. *Communications of the ACM*, 32(7):802–810, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65447.html>.
- Mayer:1986:LPL**
- [MDV86] Richard E. Mayer, Jennifer L. Dyck, and William Vilberg. Learning to program and learning to think: what’s the connection? *Communications of the ACM*, 29(7):605–610, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6142.html>.
- Medsker:1984:IDS**
- [Med84] Larry R. Medsker. An interactive decision support system for energy policy analysis. *Communications of the ACM*, 27(11):1122–1128, 1984. CODEN CACMA2.



- ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Men85] Haim Mendelson. Pricing computer services: queueing effects. *Communications of the ACM*, 28(3):312–321, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3171.html>.
- [Men87] Haim Mendelson. Economies of scale in computing: Grosch’s law revisited. *Communications of the ACM*, 30(12):1066–1072, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/33452.html>.
- [Mer85] Susan M. Merritt. An inverted taxonomy of sorting algorithms. *Communications of the ACM*, 28(1):96–99, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214925.html>.
- [Mey82] Bertrand Meyer. Principles of package design. *Communications of the ACM*, 25(7):419–428, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [MF82] M. Mor and A. S. Fraenkel. A hash code method for detecting and correcting spelling errors. *Communications of the ACM*, 25(12):935–938, December 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [MG85] J. D. McKeen and Tor Guimaraes. Selecting MIS projects by steering committee. *Communications of the ACM*, 28(12):1344–1352, December 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214965.html>.
- [MG86] William K. McHenry and Seymour E. Goodman. MIS in Soviet industrial enterprise: the limits of reform from above. *Communications of the ACM*, 29(11):1034–1043, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7539.html>.
- [MG89] Carolyn McCreary and Helen Gill. Automatic determination of grain size for efficient parallel processing. *Communications of the ACM*, 32(9):1073–1078, September 1989. CODEN CACMA2. ISSN 0001-

0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66454.html>.

**Malone:1987:IIS**

- [MGT+87] Thomas W. Malone, Kenneth R. Grant, Franklyn A. Turbak, Stephen A. Brobst, and Michael D. Cohen. Intelligent information-sharing systems. *Communications of the ACM*, 30(5):390–402, May 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/22903.html>. [Mil85]

**Merkle:1981:SME**

- [MH81] Ralph C. Merkle and Martin E. Hellman. On the security of multiple encryption. *Communications of the ACM*, 24(7):465–467, July 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Min81]

**Muller:1989:MVI**

- [MHWF89] Harald M. Müller, Christopher M. Holt, Aaron Watters, and James H. Fetzer. More on the very idea (letters). *Communications of the ACM*, 32(4):506–512, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Min82]

**Miller:1981:LES**

- [Mil81] Lance A. Miller. Letter to the Editor: On spelling correction and beyond. *Communications of the ACM*, 24(9):

608–609, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Pet80, Dun81, Nix81, Pet81].

**Mills:1985:PVS**

John A. Mills. A pragmatic view of the system architect. *Communications of the ACM*, 28(7):708–717, July 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3897.html>.

**Minker:1981:CSW**

Jack Minker. Computer scientists whose scientific freedom and human rights have been violated: a report of the ACM Committee on Scientific Freedom and Human Rights. *Communications of the ACM*, 24(3):134–139, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Minker:1982:CPW**

Jack Minker. Computer professionals whose scientific freedom and human rights have been violated — 1982. *Communications of the ACM*, 25(12):888–894, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Minker:1985:CPW**

Jack Minker. Computer professionals whose scientific freedom and human rights have been

- violated — 1984: a report of the ACM committee on scientific freedom and human rights. *Communications of the ACM*, 28 (1):69–78, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214922.html>.
- Minker:1989:SFH**
- [Min89] Jack Minker. Scientific freedom and human rights of computer professionals — 1989. *Communications of the ACM*, 32(8):957–974, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65975.html>.
- Misra:1975:RG**
- [Mis75] Jayadev Misra. Remark on “Algorithm 246: Graycode [Z]”. *ACM Transactions on Mathematical Software*, 1(3):285, September 1975. CODEN ACM-SCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [Boo64, Er85].
- Matos:1989:EAP**
- [MJ89] Victor M. Matos and Paul J. Jalicis. An experimental analysis of the performance of fourth generation tools on PCs. *Communications of the ACM*, 32(11):1340–1351, November 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/68819.html>.
- McClintock:1980:TCA**
- [MK80] John McClintock and Paul Klint. Technical correspondence: Algol-W approach to line number maintenance. *Communications of the ACM*, 23(12):729, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Martin:1985:EIS**
- [MK85] James Martin and Leonard Kleinrock. Excerpts from: An Information Systems Manifesto. *Communications of the ACM*, 28(3):252–255, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214926.html>.
- Mamrak:1987:SAS**
- [MKNS87] S. A. Mamrak, M. J. Kaelbling, C. K. Nicholas, and M. Share. A software architecture for supporting the exchange of electronic manuscripts. *Communications of the ACM*, 30(5):408–414, May 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/22905.html>.
- Mathey:1983:CMQ**
- [MM83] Michael J. Mathey and Bernard M. E. Moret. The computational metaphor and quantum

physics. *Communications of the ACM*, 26(2):137–145, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Maude:1984:HPA**

- [MM84] Tim Maude and Derwent Maude. Hardware protection against software piracy. *Communications of the ACM*, 27(9):950–959, September 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Miara:1983:PIC**

- [MMNS83] Richard J. Miara, Joyce A. Musselman, Juan A. Navarro, and Ben Shneiderman. Program indentation and comprehensibility. *Communications of the ACM*, 26(11):861–867, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Markowitz:1984:EAD**

- [MMP84] H. M. Markowitz, A. Malhotra, and D. P. Pazel. The EASE application development system: Principles and language summary. *Communications of the ACM*, 27(8):785–799, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Also published in/as: IBM, Res. R. No. RC9910, Apr. 1983.

**Ma:1989:GIL**

- [MMS89] Pai-Chun Ma, Frederic H. Murphy, and Edward A. Stohr. A graphics interface for linear programming. *Communications of the ACM*, 32(8):

996–1012, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65978.html>.

**Morris:1968:SST**

- [Mor68] Robert Morris. Scatter storage techniques. *Communications of the ACM*, 11(1):38–44, January 1968. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Influential survey of the subject of hashing, and first introduction of random probing with secondary clustering. Appears to be the first publication where the word ‘hashing’ appeared, although it was in common use at the time. Knuth [Knu73, p. 542] found only one earlier printed use of the word, in a 1961 unpublished memorandum by W. W. Peterson.

**Morey:1982:EIQ**

- [Mor82] Richard C. Morey. Estimating and improving the quality of information in a MIS. *Communications of the ACM*, 25(5):337–342, May 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Morland:1983:HFG**

- [Mor83a] D. V. Morland. Human factors guidelines for terminal interface design. *Communications of the ACM*, 26(7):484–494, July 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Morris:1983:SST**

- [Mor83b] Robert Morris. Scatter storage techniques (reprint). *Communications of the ACM*, 26(1):39–42, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Mor68].

**Morrison:1983:SAT**

- [Mor83c] Perry R. Morrison. A survey of attitudes toward computers. *Communications of the ACM*, 26(12):1051–1057, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Mel:1988:TPC**

- [MOR<sup>+</sup>88] B. W. Mel, S. M. Omohundro, A. D. Robison, S. S. Skiena, and K. H. Thearling. Tablet: personal computer of the year 2000. *Communications of the ACM*, 31(6):638–648, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62960.html>.

**Motzkin:1983:PM**

- [Mot83] Dalia Motzkin. Pracnique: MEANSORT. *Communications of the ACM*, 26(4):250–251, April 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Mowshowitz:1981:ASS**

- [Mow81] Abbe Mowshowitz. On approaches to the study of social

issues in computing. *Communications of the ACM*, 24(3):146–155, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Mozeico:1982:HCI**

- [Moz82] Howard Mozeico. A human/computer interface to accommodate user learning stages. *Communications of the ACM*, 25(2):100–104, February 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**McIntyre:1985:DCU**

- [MP85] David R. McIntyre and Michael A. Pechura. Data compression using static Huffman code-decode tables. *Communications of the ACM*, 28(6):612–616, June 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3815.html>.

**Madden:1984:DDI**

- [MR84a] William A. Madden and Kyle Y. Rone. Design, development, integration: Space Shuttle primary flight software system. *Communications of the ACM*, 27(9):914–925, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Mathews:1984:CCR**

- [MR84b] Walter M. Mathews and Kaye Reifers. The computer in cartoons: a retrospective from the Saturday Review. *Communications of the ACM*, 27(11):1114–

1119, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**McGregor:1989:SMI**

- [MR89] John D. McGregor and Arthur M. Riehl. Support for multiprocessing (introduction to the special section). *Communications of the ACM*, 32(9):1062–1064, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66460.html>.

**McCormack:1981:AFE**

- [MS81a] William M. McCormack and Robert G. Sargent. Analysis of future event set algorithms for discrete event simulation. *Communications of the ACM*, 24(12):801–812, December 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**McEliece:1981:SSR**

- [MS81b] R. J. McEliece and D. V. Sarwate. On sharing secrets and Reed–Solomon codes. *Communications of the ACM*, 24(9):583–584, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Morris:1986:ADP**

- [MSC<sup>+</sup>86] James H. Morris, Mahadev Satyanarayanan, Michael H. Conner, John H. Howard, David S. Rosenthal, and F. Donelson Smith. Andrew: a distributed personal computing en-

vironment. *Communications of the ACM*, 29(3):184–201, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5671.html>.

**Mantei:1988:CBA**

- [MT88] Marilyn M. Mantei and Toby J. Teorey. Cost/benefit analysis for incorporating human factors in the software lifecycle. *Communications of the ACM*, 31(4):428–439, April 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42408.html>.

**Mitra:1988:EII**

- [MTY88] Gautam Mitra, Mehrdad Tamiz, and Joseph Yadegar. Experimental investigation of an interior search method within a simplex framework. *Communications of the ACM*, 31(12):1474–1482, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214953.html>.

**Mullin:1983:SLB**

- [Mul83] James K. Mullin. A second look at Bloom filters. *Communications of the ACM*, 26(8):570–571, August 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Munson:1988:SAP**

- [Mun88] John C. Munson. Self-assessment procedure XVIII: fundamentals of data communications. *Communications of the ACM*, 31(3):334–341, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42401.html>.

**Milne:1983:EDG**

- [MW83] Frank Milne and Ron Weber. The economics of designing generalized software. *Communications of the ACM*, 26(8):582–589, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Malone:1987:EME**

- [MYB87] Thomas W. Malone, Joanne Yates, and Robert I. Benjamin. Electronic markets and electronic hierarchies. *Communications of the ACM*, 30(6):484–497, June 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214766.html>.

**Nance:1981:TSR**

- [Nan81] Richard E. Nance. The time and state relationships in simulation modeling. *Communications of the ACM*, 24(4):173–179, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Nash:1985:DIV**

- [Nas85] John C. Nash. Design and implementation of a very small linear algebra program package. *Communications of the ACM*, 28(1):89–94, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2470.html>.

**Nedginn:1984:CAP**

- [NB84] Preet J. Nedginn and Trebor L. Bworn. CLOG: An Ada package for automatic footnote generation in UNIX (April 1984 special section). *Communications of the ACM*, 27(4):351–??, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Napier:1989:IRN**

- [NBGL89] H. Albert Napier, Richard R. Batsell, Norman S. Guadango, and David M. Lane. Impact of a restricted natural language interface on ease of learning and productivity. *Communications of the ACM*, 32(10):1190–1198, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67936.html>.

**Notkin:1988:IHC**

- [NBL<sup>+</sup>88] David Notkin, Andrew P. Black, Edward D. Lazowska, Henry M. Levy, Jan Sanislo, and John Zahorjan. Interconnecting heterogeneous computer systems. *Com-*

- munications of the ACM*, 31 (3):258–273, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42396.html>.
- [NCD82] Jay F. Nunamaker, Jr., J. Daniel Couger, and Gordon B. Davis. Information systems curriculum recommendations for the 80s: Undergraduate and graduate programs. *Communications of the ACM*, 25(11):781–805, November 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Nej88] Brian A. Nejme. NPATH: a measure of execution path complexity and its applications. *Communications of the ACM*, 31 (2):188–200, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214985.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42379.html>.
- [Neu84] Peter G. Neumann. A further view of the first quarter century: Introduction to the April 1984 special section. *Communications of the ACM*, 27(4):343–??, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [NHSS87] David Notkin, Norman Hutchinson, Jan Sanislo, and Michael Schwartz. Heterogeneous computing environments: report on the ACM SIGOPS workshop on accommodating heterogeneity. *Communications of the ACM*, 30 (2):132–140, February 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/12529.html>.
- [NI83] Seiichi Nishihara and Katsuo Ikeda. Reducing the retrieval time of hashing method by using predictors. *Communications of the ACM*, 26(12):1082–1088, December 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Nix81] Robert P. Nix. Experience with a space efficient way to store a dictionary. *Communications of the ACM*, 24(5):297–298, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [NK88] Monty Newborn and Danny Kopec. Results of ACM’s Eighteenth Computer Chess Championship. *Communications of the ACM*, 31(8):992–995, August 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/12529.html>.



- acm.org/pubs/toc/Abstracts/0001-0782/63035.html.
- [NK89] Monty Newborn and Danny Kopec. Results of the nineteenth ACM North American computer chess championship. *Communications of the ACM*, 32(10):1225–1230, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67939.html>.
- [NMF87] Richard Nance, Robert Moose, and Robert Foutz. A statistical technique for comparing heuristics: an example from capacity assignment strategies in computer network design. *Communications of the ACM*, 30(5):430–442, May 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/22907.html>.
- [NN89] Ronald J. Norman and Jay F. Nunamaker, Jr. CASE productivity perceptions of software engineering professionals. *Communications of the ACM*, 32(9):1102–1108, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66458.html>.
- [Nor83] Donald A. Norman. Design rules based on analyses of human error. *Communications of the ACM*, 26(4):254–258, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Nov85] Milan Novotny. Remark on “Algorithm 30: Numerical Solution of the Polynomial Equation”. *ACM Transactions on Mathematical Software*, 11(2):183–184, June 1985. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [Ell60].
- [NP82] J. Nievergelt and F. P. Preparata. Plane-sweep algorithms for intersecting geometric figures. *Communications of the ACM*, 25(10):739–747, October 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [NS84] Edward Ng and Paul B. Schneck. Introduction to the special section on computing in space. *Communications of the ACM*, 27(9):901–??, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [NS87a] Kjell W. Nielsen and Ken Shumate. Corrigenda: “Designing large real-time systems with Ada”. *Communications of the ACM*, 30(12):1073, December

1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/33454.html>. See [NS87b].
- [NS87b] Kjell W. Nielsen and Ken Shumate. Designing large real-time systems with Ada. *Communications of the ACM*, 30(8): 695–715, August 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/27655.html>. See corrigenda [NS87a].
- [Nun81] Jay F. Nunamaker. Educational programs in information systems. *Communications of the ACM*, 24(3):124–133, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [NY85] R. M. Norton and D. P. Yeager. A probability model for overflow sufficiency in small hash tables. *Communications of the ACM*, 28(10):1068–1075, October 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4377.html>.
- [OA85] Rodney R. Oldehoeft and Stephen J. Allan. Adaptive exact-fit storage management. *Communications of the ACM*, 28(5):506–511, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3536.html>.
- [OB88] T. J. Ostrand and M. J. Balcer. The category-partition method for specifying and generating functional tests. *Communications of the ACM*, 31(6):676–686, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62964.html>.
- [O'D82] M. J. O'Donnell. A critique of the foundations of Hoare style programming logics. *Communications of the ACM*, 25(12): 927–934, December 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [OL82] Margrethe H. Olson and Henry C. Lucas, Jr. The impact of office automation on the organization: Some implications for research and practice. *Communications of the ACM*, 25(11):838–847, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Nielsen:1987:DLR****Ostrand:1988:CPM****Nunamaker:1981:EPI****ODonnell:1982:CFH****Norton:1985:PMO****Olson:1982:IOA****Oldehoeft:1985:AEF**

- [Oli83] **OliveiRamon:1983:IDA**  
 Antoni Olivé i Ramon. Information derivability analysis in logical information systems. *Communications of the ACM*, 26(11): 933–938, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ols83] **Olson:1983:ROW**  
 M. H. Olson. Remote office work: changing work patterns in space and time. *Communications of the ACM*, 26(3):182–187, March 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [ON85] **Overstreet:1985:SLA**  
 C. Michael Overstreet and Richard E. Nance. A specification language to assist in analysis of discrete event simulation models. *Communications of the ACM*, 28(2):190–201, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2792.html>.
- [OO80] **ONeill:1980:PST**  
 P. O’Neill and A. O’Neill. Performance statistics of a time sharing network at a small university. *Communications of the ACM*, 23(1):10–13, January 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [O’R81] **ORourke:1981:LAF**  
 J. O’Rourke. An on-line algorithm for fitting straight lines between data ranges. *Communications of the ACM*, 24(9): 574–578, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Öre81] **Oren:1981:CCA**  
 Tuncer I. Ören. Concepts and criteria to access acceptability of simulation studies: a frame of references. *Communications of the ACM*, 24(4):180–189, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [OS85] **OLeary:1985:DFA**  
 Dianne P. O’Leary and G. W. Stewart. Data-flow algorithms for parallel matrix computation. *Communications of the ACM*, 28(8):840–853, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4025.html>.
- [OSS80] **Ousterhout:1980:MED**  
 J. K. Ousterhout, D. A. Scelza, and P. S. Sindhu. Medusa: an experiment in distributed operating system structure. *Communications of the ACM*, 23(2): 92–105, February 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pap85] **Papsdorf:1985:PCA**  
 Robert Papsdorf. A prescription for computer anxiety — review of John Shore’s “The Sachertorte Algorithm”. *Communications of*

*the ACM*, 28(7):704–706, 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Parnas:1972:TSM**

[Par72]

David Lorge Parnas. A technique for software module specification with examples. *Communications of the ACM*, 15(5):330–336, May 1972. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Parnas:1983:GCS**

[Par83a]

David Lorge Parnas. A generalized control structure and its formal definition. *Communications of the ACM*, 26(8):572–581, August 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Parnas:1983:TSM**

[Par83b]

David Lorge Parnas. A technique for software module specification with examples (reprint). *Communications of the ACM*, 26(1):75–78, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Par72].

**Parnas:1985:SAS**

[Par85]

David Lorge Parnas. Software aspects of strategic defense systems. *Communications of the ACM*, 28(12):1326–1335, December 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL [http://www.](http://www.acm.org/pubs/toc/Abstracts/0001-0782/214961.html)

[acm.org/pubs/toc/Abstracts/0001-0782/214961.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/214961.html).

**Patterson:1981:EHL**

[Pat81]

David A. Patterson. An experiment in high level language microprogramming and verification. *Communications of the ACM*, 24(10):699–709, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Patterson:1985:RIS**

[Pat85]

David A. Patterson. Reduced instruction set computers. *Communications of the ACM*, 28(1):8–21, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214917.html>.

**Peterson:1980:CLM**

[PB80]

G. Peterson and A. B. Budgor. The computer language Mathsy and applications to solid state physics. *Communications of the ACM*, 23(8):466–474, August 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Pfaltz:1980:PMR**

[PBC80]

John L. Pfaltz, William J. Berman, and Edgar M. Cagley. Partial-match retrieval using indexed descriptor files. *Communications of the ACM*, 23(9):522–528, September 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [PC89] **Purtilo:1989:PTA**  
James J. Purtilo and John R. Callahan. Parse tree annotations. *Communications of the ACM*, 32(12):1467–1477, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/76387.html>.
- [Pea82] Judea Pearl. The solution for the branching factor of the alpha-beta pruning algorithm and its optimality. *Communications of the ACM*, 25(8):559–564, August 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pec81] **Pechura:1981:MRN**  
M. A. Pechura. Microcomputers as remote nodes of a distributed system. *Communications of the ACM*, 24(11):734–738, November 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pec82] **Pechura:1982:FAT**  
Michael A. Pechura. File archival techniques using data compression. *Communications of the ACM*, 25(9):605–609, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pec83a] **Pechura:1983:FCT**  
Michael Pechura. On file compression techniques: Author’s response. *Communications of the ACM*, 26(2):148–149, February 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pec83b] **Pechura:1983:CTM**  
Michael A. Pechura. Comparing two microcomputer operating systems: CP/M and HDOS. *Communications of the ACM*, 26(3):188–195, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pee83] **Peemoller:1983:CBM**  
Jürgen Peemöller. A correction to Brélaz’s modification of Brown’s coloring algorithm. *Communications of the ACM*, 26(8):595–597, August 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pel88] **Peled:1988:JCA**  
Abraham Peled. John Cocke: The 1987 ACM A. M. Turing Award recipient. *Communications of the ACM*, 31(3):249, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42393.html>.
- [Pet80] **Peterson:1980:CPD**  
James Lyle Peterson. Computer programs for detecting and correcting spelling errors. *Communications of the ACM*, 23(12):676–687, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (elec-

- tronic). See remarks [Dun81, Mil81, Nix81, Pet81].
- [Pet81] **Peterson:1981:LES**  
James L. Peterson. Letter to the Editor: On spelling correction and beyond. *Communications of the ACM*, 24(9):609, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Pet80, Dun81, Mil81, Nix81].
- [Pet83] **Petersen:1983:VFN**  
W. P. Petersen. Vector Fortran for numerical problems on CRAY-1. *Communications of the ACM*, 26(11):1008–1021, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Pet86] **Peterson:1986:NUT**  
James L. Peterson. A note on undetected typing errors. *Communications of the ACM*, 29(7):633–637, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6146.html>.
- [Pey86] **PeytonJones:1986:PDO**  
Simon L. Peyton Jones. Parsing distfix operators. *Communications of the ACM*, 29(2):118–122, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5659.html>.
- [Pic88a] **Pickover:1988:NCH**  
Clifford A. Pickover. A note on chaos and Halley’s method. *Communications of the ACM*, 31(11):1326–1329, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50093.html>.
- [Pic88b] **Pickover:1988:PFC**  
Clifford A. Pickover. Pattern formation and chaos in networks. *Communications of the ACM*, 31(2):136–151, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214975.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42376.html>.
- [PKT83] **Postmus:1983:EDS**  
J. T. Postmus, A. H. G. Rinnooy Kan, and G. T. Timmer. An efficient dynamic selection method. *Communications of the ACM*, 26(11):878–881, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [PL80] **Potier:1980:ALP**  
D. Potier and P. LeBlanc. Analysis of locking policies in database management systems. *Communications of the ACM*, 23(10):584–593, October 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- Park:1988:RNG**
- [PM88] Stephen K. Park and Keith W. Miller. Random number generators: Good ones are hard to find. *Communications of the ACM*, 31(10):1192–1201, October 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63042.html>.
- Pleasant:1989:CFP**
- [PPC<sup>+</sup>89] James C. Pleasant, Lawrence Paulson, Avra Cohen, Michael Gordon Bevier, Michael K. Smith, William D. Young, Thomas R. Clune, Stephen Savitzky, and James H. Fetzer. Correspondence on Fetzer, program verification: The very idea. *Communications of the ACM*, 32(3):374–381, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Press:1988:BLP**
- [Pre88] L. Press. Benchmarks for LAN performance evaluation. *Communications of the ACM*, 31(8):1014–1017, August 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63038.html>.
- Press:1989:TOM**
- [Pre89a] Larry Press. Thoughts and observations at the Microsoft CD-ROM conference. *Communications of the ACM*, 32(7):784–788, 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Press:1989:TTI**
- [Pre89b] Larry Press. The Toshiba T1000, IBM’s Academic Computing Conference and SPARC PCs. *Communications of the ACM*, 32(11):1292–1298, 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Pritchard:1981:CSA**
- [Pri81a] Paul Pritchard. Corrigendum: “A sublinear additive sieve for finding prime numbers”. *Communications of the ACM*, 24(11):772, November 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Pri81b].
- Pritchard:1981:SAS**
- [Pri81b] Paul Pritchard. A sublinear additive sieve for finding prime numbers. *Communications of the ACM*, 24(1):18–23, January 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigendum [Pri81a].
- Pritchard:1984:SNR**
- [Pri84] Paul Pritchard. Some negative results concerning prime number generators. *Communications of the ACM*, 27(1):53–57, January 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- Pearson:1984:SPP**
- [PRT84] Robert B. Pearson, John L. Richardson, and Doug Toutsaint. Special-purpose processors in theoretical physics. *Communications of the ACM*, 28(4):385–389, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Pearson:1985:SPP**
- [PRT85] Robert B. Pearson, John L. Richardson, and Doug Toutsaint. Special-purpose processors in theoretical physics. *Communications of the ACM*, 28(4):385–389, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3346.html>.
- Pechura:1983:EFA**
- [PS83] M. A. Pechura and J. D. Schoeffler. Estimating file access time of floppy disks. *Communications of the ACM*, 26(10):754–763, October 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Parnas:1989:CRD**
- [PSvE<sup>+</sup>89] David L. Parnas, W. L. Scherlis, M. H. van Emden, Jacques Cohen, R. W. Hamming, Richard M. Karp, and Terry Winograd. Colleagues respond to dijkstra’s comments. *Communications of the ACM*, 32(12):1405–1413, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Poirot:1988:RTT**
- [PTN88] James L. Poirot, Harriet G. Taylor, and Cathleen A. Norris. Retraining teachers to teach high school computer science. *Communications of the ACM*, 31(7):912–917, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48521.html>.
- Preparata:1981:CCC**
- [PV81] Franco P. Preparata and Jean Vuillemin. The cube-connected cycles: a versatile network for parallel computation. *Communications of the ACM*, 24(5):300–309, May 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Pitteway:1980:BAG**
- [PW80] M. L. V. Pitteway and D. J. Watkinson. Bresenham’s algorithm with grey scale. *Communications of the ACM*, 23(11):625–626, November 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See corrigendum [PW81].
- Pitteway:1981:CBA**
- [PW81] M. L. V. Pitteway and D. J. Watkinson. Corrigendum: “Bresenham’s algorithm with grey scale”. *Communications of the ACM*, 24(2):88, February 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [PW80].



**Padua:1986:ACO**

- [PW86] David A. Padua and Michael J. Wolfe. Advanced compiler optimization for supercomputers. *Communications of the ACM*, 29(12):1184–1201, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7904.html>.

**Pollock:1984:ASC**

- [PZ84] J. J. Pollock and A. Zamora. Automatic spelling correction in scientific and scholarly text. *Communications of the ACM*, 27(4):358–368, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Quittner:1981:CSH**

- [QCH<sup>+</sup>81] P. Quittner, S. Csoka, S. Hadasz, D. Kotsis, and K. Varnai. Comparison of synonym handling and bucket organization methods. *Communications of the ACM*, 24(9):579–582, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Quarterman:1986:NCN**

- [QH86] John S. Quarterman and Josiah C. Hoskins. Notable computer networks. *Communications of the ACM*, 29(10):932–971, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6618.html>.

**Ricart:1981:OAM**

[RA81] Glenn Ricart and Ashok K. Agrawala. An optimal algorithm for mutual exclusion in computer networks. *Communications of the ACM*, 24(1):9–17, January 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Raibert:1986:LR**

[Rai86] Marc H. Raibert. Legged robots. *Communications of the ACM*, 29(6):499–514, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5950.html>.

**Rajlich:1985:PDI**

[Raj85] Václav Rajlich. Paradigms for design and implementation in ADA. *Communications of the ACM*, 28(7):718–727, July 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3898.html>.

**Ralston:1981:PNC**

[Ral81] Anthony Ralston. The proposed new Computing Reviews classification scheme, a report of the Computing Reviews Category Revision Committee. *Communications of the ACM*, 24(7):419–433, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [Ral84] **Ralston:1984:FCC**  
 Anthony Ralston. The first course in computer science needs a mathematical corequisite. *Communications of the ACM*, 27(10):1002–1009, October 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ram89] **Ramakrishna:1989:PPB**  
 M. V. Ramakrishna. Practical performance of Bloom filters and parallel free-text searching. *Communications of the ACM*, 32(10):1237–1239, October 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/67941.html>. *Computing Reviews*: “This short communication deals with a special kind of hash function called ‘Bloom filters.’ These filters are used, for example, to search a differential file containing updates to a main file.”
- [Rau85] **Raugh:1985:MCE**  
 Michael R. Raugh. Modeling California earthquakes and earth structures. *Communications of the ACM*, 28(11):1130–1150, November 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4548.html>.
- [RAV83] **Ramsey:1983:FVP**  
 H. Rudy Ramsey, Michael E. Atwood, and James R. Van Doren. Flowcharts versus program design languages: An experimental comparison. *Communications of the ACM*, 26(6):445–449, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [RDH<sup>+</sup>80] **Redell:1980:POS**  
 David Redell, Yogen Dalal, Thomas Horsley, Hugh Lauer, William Lynch, Paul McJones, Hal Murray, and Stephen Purcell. Pilot: An operating system for a personal computer. *Communications of the ACM*, 23(2):81–92, February 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [RE89] **Rochlis:1989:MTW**  
 Jon A. Rochlis and Mark W. Eichin. With microscope and tweezers: the worm from MIT’s perspective. *Communications of the ACM*, 32(6):689–698, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63528.html>.
- [Ree87] **Rees:1987:CPO**  
 Mina Rees. The computing program of the Office of Naval Research, 1946–1953. *Communications of the ACM*, 30(10):830–848, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63528.html>.

acm.org/pubs/toc/Abstracts/0001-0782/30415.html.

**Revens:1987:FYA**

- [Rev87] Lee Revens. The first 25 years: ACM 1947–1962. *Communications of the ACM*, 30(10): 860–865, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30418.html>.

**Reynolds:1987:PMS**

- [Rey87] Robert G. Reynolds. The partial metrics system: modeling the stepwise refinement process using partial metrics. *Communications of the ACM*, 30(11): 956–963, November 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32211.html>.

**Rockart:1983:MEU**

- [RF83] J. F. Rockart and L. S. Flannery. The management of end-user computing. *Communications of the ACM*, 26(10):776–784, October 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Rivard:1988:FSE**

- [RH88] Suzanne Rivard and Sid L. Huff. Factors of success for end-user computing. *Communications of the ACM*, 31(5):552–561, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317

(electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42418.html>.

**Ryabko:1987:CLA**

- [RHC87] B. Ya. Ryabko, R. Nigel Horspool, and Gordon V. Cormack. Comments to: “A locally adaptive data compression scheme” [Comm. ACM **29**, 1986, 4, 320–330, MR 87e:68020] by J. L. Bentley, D. D. Sleator, R. E. Tarjan and V. K. Wei. *Communications of the ACM*, 30(9): 792–794, September 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Ringwood:1988:PDL**

- [Rin88] G. A. Ringwood. Parlog86 and the dining logicians. *Communications of the ACM*, 31(1): 10–25, January 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/35044.html>.

**Ripley:1989:DDM**

- [Rip89] G. David Ripley. DVI — a digital multimedia technology. *Communications of the ACM*, 32(7):811–822, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65448.html>.

**Ritchie:1984:RSR**

- [Rit84] Dennis M. Ritchie. Reflections on software research. *Communications of the ACM*, 27(8):

- 758–760, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Rob81]
- [RKM88] Mary Beth Rosson, Wendy Kellogg, and Susanne Maass. The designer as user: building requirements for design tools from design practice. *Communications of the ACM*, 31(11):1288–1298, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50090.html>. From *Computing Reviews*: “Interviews objects are combined through a model similar to the boxes and glues in Knuth’s  $\text{\TeX}$ , which allows interface objects to be combined with little concern for undesired interactions.”
- [Rob82] Jane J. Robinson. DIAGRAM: a grammar for dialogues. *Communications of the ACM*, 25(1):27–47, January 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Rob86] Pierre N. Robillard. Schematic pseudocode for program constructs and its computer automation by SCHEMACODE. *Communications of the ACM*, 29(11):1072–1089, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7541.html>.
- [RM83] T. L. Roberts and T. P. Moran. The evaluation of text editors, methodology and empirical results. *Communications of the ACM*, 26(4):265–283, April 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [RME84] Jean B. Rogers, David G. Moursund, and Gerald L. Engel. Preparing precollege teachers for the computer age. *Communications of the ACM*, 27(3):195–200, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Rob81]
- [Rob81] Daniel Robey. Computer information systems and organization structure. *Communications of the ACM*, 24(10):679–687, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ros81] Arnold L. Rosenberg. On uniformly inserting one data structure into another. *Communications of the ACM*, 24(2):88–90, February 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Rot81] Christopher E. Rothe. An abstract programming model.

- Communications of the ACM*, 24(9):594–596, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [RS80]
- Ronen:1989:SAD**
- [RPL89] Boaz Ronen, Michael A. Paley, and Henry C. Lucas, Jr. Spreadsheet analysis and design. *Communications of the ACM*, 32(1):84–93, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63244.html>.
- Rushinek:1986:WMU**
- [RR86] Avi Rushinek and Sara F. Rushinek. What makes users happy? *Communications of the ACM*, 29(7):594–598, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6140.html>.
- Risch:1988:FAI** [RS86]
- [RRHD88] Tore Risch, René Reboh, Peter E. Hart, and Richard O. Duda. A functional approach to integrating database and expert systems. *Communications of the ACM*, 31(12):1424–1437, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/53582.html>.
- Ralston:1980:CCS**
- Anthony Ralston and Mary Shaw. Curriculum '78 — is computer science really that unmathematical. *Communications of the ACM*, 23(2):67–70, February 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Robinson:1981:ASC**
- [RS81] P. J. Robinson and Dave Singer. Another spelling correction program. *Communications of the ACM*, 24(5):296–297, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Rivest:1984:HEE**
- [RS84] Ronald L. Rivest and Adi Shamir. How to expose an eavesdropper. *Communications of the ACM*, 27(4):393–395, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Redish:1986:PSA**
- [RS86] K. A. Redish and W. F. Smyth. Program style analysis: a natural by-product of program compilation. *Communications of the ACM*, 29(2):126–133, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5661.html>.
- Rozen:1989:URS**
- [RS89] Steve Rozen and Dennis Shasha. Using a relational system on Wall

- Street: the good, the bad, the ugly, and the ideal. *Communications of the ACM*, 32(8): 988–994, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65977.html>. [RT74]
- Rivest:1978:MOD**
- [RSA78] Ronald L. Rivest, Adi Shamir, and Leonard M. Adleman. A method for obtaining digital signatures and public-key cryptosystems. *Communications of the ACM*, 21(2):120–126, February 1978. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). The basics of trap-door functions and the famous RSA public key cryptosystem are presented in this paper. [RT83]
- Rivest:1983:MOD**
- [RSA83] R. L. Rivest, A. Shamir, and L. Adleman. A method for obtaining digital signatures and public-key cryptosystems (reprint). *Communications of the ACM*, 26(1):96–99, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [RSA78]. [RT86]
- Rubinstein:1988:SCA**
- [RSS88] D. Rubinstein, J. Shallit, and M. Szegedy. A subset coloring algorithm and its applications to computer graphics. *Communications of the ACM*, 31(10): 1228–1232, October 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63046.html>. [RT88]
- Ritchie:1974:UTS**
- Dennis M. Ritchie and Ken Thompson. The UNIX time-sharing system. *Communications of the ACM*, 17(7):365–375, July 1974. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Ritchie:1983:UTS**
- Dennis M. Ritchie and Ken Thompson. The UNIX time-sharing system (reprint). *Communications of the ACM*, 26(1):84–89, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [RT74].
- Rettberg:1986:CNO**
- Randall Rettberg and Robert Thomas. Contention is no obstacle to shared-memory multiprocessing. *Communications of the ACM*, 29(12):1202–1212, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7905.html>.
- Raymond:1988:HOE**
- Darrell R. Raymond and Frank Wm. Tompa. Hypertext and the Oxford English Dictionary. *Communications of the ACM*, 31

- (7):871–879, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48517.html>.
- [RW85] Bernard C. Reimann and Allan D. Waren. User-oriented criteria for the selection of DSS software. *Communications of the ACM*, 28(2):166–179, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2790.html>.
- [RW87] Channing H. Russell and Pamela J. Waterman. Variations on UNIX for parallel-processing computers. *Communications of the ACM*, 30(12):1048–1055, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/33450.html>.
- [SA81] T. J. Schriber and R. W. Andrews. A conceptual framework for research in the analysis of simulation output. *Communications of the ACM*, 24(4):218–232, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SAC86] Brian M. Slator, Matthew P. Anderson, and Walt Conley. Pygmalion at the interface. *Communications of the ACM*, 29(7):599–604, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6141.html>.
- [Sag85] Thomas J. Sager. A polynomial time generator for minimal perfect hash functions. *Communications of the ACM*, 28(5):523–532, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3538.html>. See [Cic80a].
- [Sal86] Gerard Salton. Another look at automatic text-retrieval systems. *Communications of the ACM*, 29(7):648–656, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6149.html>.
- [Sal88] R. G. Saltman. Accuracy, integrity and security in computerized vote-tallying. *Communications of the ACM*, 31(10):1184–1191, October 1988. CODEN CACMA2. ISSN 0001-

**Slator:1986:PI****Reimann:1985:UOC****Sager:1985:PTG****Russell:1987:VUP****Salton:1986:ALA****Schriber:1981:CFR****Saltman:1988:AIS**

- 0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63041.html>.
- Samet:1980:RRQ**
- [Sam80a] H. Samet. Region representation: Quadrees from boundary codes. *Communications of the ACM*, 23(3):163–170, March 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Samet:1980:DTD**
- [Sam80b] Hanan Samet. Deletion in two-dimensional quad trees. *Communications of the ACM*, 23(12):703–710, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Samet:1982:HLD**
- [Sam82] Hanan Samet. Heuristics for the line division problem in computer justified text. *Communications of the ACM*, 25(8):564–571, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Samet:1983:QMA**
- [Sam83] H. Samet. A quadtree medial axis transform. *Communications of the ACM*, 26(9):680–693, September 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Samet:1985:DSQ**
- [Sam85] Hanan Samet. Data structures for quadtree approximation and compression. *Communications of the ACM*, 28(9):973–993, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4290.html>.
- Sammet:1986:WAJ**
- [Sam86] Jean E. Sammet. Why Ada is not just another programming language. *Communications of the ACM*, 29(8):722–732, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6425.html>.
- Samuelson:1989:WLF**
- [Sam89a] P. Samuelson. Why the look and feel of software user interfaces should not be protected by copyright law. *Communications of the ACM*, 32(5):563–572, May 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63487.html>.
- Samuelson:1989:CHS**
- [Sam89b] Pamela Samuelson. Can hackers be sued for damages caused by computer viruses? *Communications of the ACM*, 32(6):666–669, 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Santoro:1984:CMM**
- [San84] Nicola Santoro. Chain multiplication of matrices of approximately or exactly the same size.



- [Sar88] *Communications of the ACM*, 27(2):152–156, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [San85] Bo Sanden. Systems programming with JSP: example — a VDU controller. *Communications of the ACM*, 28(10):1059–1067, October 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4376.html>.
- [San89a] Bo Sanden. Entity-life modeling and structured analysis in real-time software design — a comparison. *Communications of the ACM*, 32(12):1458–1466, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/76386.html>.
- [San89b] Bo Sanden. An entity-life modeling approach to the design of concurrent software. *Communications of the ACM*, 32(3):330–343, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62069.html>.
- [Sarwate:1988:CCR] D. V. Sarwate. Computation of cyclic redundancy checks via table look-up. *Communications of the ACM*, 31(8):1008–1013, August 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63037.html>.
- [SB60] K. Samelson and Friedrich L. Bauer. Sequential formula translation. *Communications of the ACM*, 3(2):76–83, February 1960. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Addendum, 351.
- [SB82] William Swartout and Robert Balzer. On the inevitable intertwining of specification and implementation. *Communications of the ACM*, 25(7):438–440, July 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SB83] K. Samelson and Friedrich L. Bauer. Sequential formula translation (reprint). *Communications of the ACM*, 26(1):9–13, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [SB60].
- [SB86] Martin K. Solomon and Riva Wenig Bickel. Self-assessment proce-

- procedure XV: a self-assessment procedure dealing with file processing. *Communications of the ACM*, 29 (8):745–751, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6440.html>. [SC82]
- [SB88] Gerard Salton and Chris Buckley. Parallel text search methods. *Communications of the ACM*, 31 (2):202–215, February 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214989.html>; <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42380.html>. [SC87]
- [SBE83] Elliot Soloway, Jeffrey Bonar, and Kate Ehrlich. Cognitive strategies and looping constructs: An empirical study. *Communications of the ACM*, 26(11):853–860, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [SC88]
- [SC80] Ishwar K. Sethi and B. Chatterjee. Conversion of decision tables to efficient sequential testing procedures. *Communications of the ACM*, 23(5):279–285, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). [Sch81]
- [Simmons:1982:RSS] Robert F. Simmons and Daniel L. Chester. Relating sentences and semantic networks with procedural logic. *Communications of the ACM*, 25(8):527–547, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Schruben:1987:EPS] Lee W. Schruben and V. James Cogliano. An experimental procedure for simulation response surface model identification. *Communications of the ACM*, 30(8):716–730, August 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/27656.html>.
- [Shneiderman:1988:ESP] Ben Shneiderman and John M. Carroll. Ecological studies of professional programmers: An overview. *Communications of the ACM*, 31(11):1256–1258, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214900.html>.
- [Schruben:1981:CIB] Lee W. Schruben. Control of initialization bias in multivariate simulation response. *Communications of the ACM*, 24 (4):246–252, April 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [Sch83a] Lee Schruben. Simulation modeling with event graphs. *Communications of the ACM*, 26(11):957–963, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Sch83b] Arthur I. Schwarz. On file compression techniques. *Communications of the ACM*, 26(2):148, February 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SCL87] Zen-Cheung Shih, Gen-Huey Chen, and R. C. T. Lee. Systolic algorithms to examine all pairs of elements. *Communications of the ACM*, 30(2):161–167, February 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/12532.html>.
- [Scu89] John Sculley. The relationship between business and higher education: a perspective on the 21st century. *Communications of the ACM*, 32(9):1056–1061, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66452.html>.
- [SD86] Sumit Sircar and Dinesh Dave. The relationship between benchmark tests and microcomputer price. *Communications of the ACM*, 29(3):212–217, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5672.html>.
- [SDP84] Jorge L. C. Sanz, Irs'hak Dinstein, and Dragutin Petkovic. Computing multi-colored polygonal masks in pipeline architectures and its application to automated visual inspection. *Communications of the ACM*, 30(4):318–329, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SDP87] Jorge L. C. Sanz, Its'hak Dinstein, and Dragutin Petkovic. Computing multi-colored polygonal masks in pipeline architecture and its application to automated visual inspection. *Communications of the ACM*, 30(4):318–329, April 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/32235.html>.
- [See89] Donn Seeley. Password cracking: a game of wits. *Communications of the ACM*, 32(6):700–703, June

1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63529.html>.
- Seitz:1985:CC**
- [Sei85] Charles L. Seitz. The cosmic cube. *Communications of the ACM*, 28(1):22–33, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2467.html>.
- Sezgin:1989:EPC**
- [Sez89] Fatin Sezgin. On efficient and portable combined random number generators. *Communications of the ACM*, 32(8):1019–1020, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Stefik:1987:BCC**
- [SFB<sup>+</sup>87] Mark Stefik, Gregg Foster, Daniel G. Bobrow, Kenneth Kahn, Stan Lanning, and Lucy Suchman. Beyond the chalkboard: computer support for collaboration and problem solving in meetings. *Communications of the ACM*, 30(1):32–47, January 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7887.html>.
- Salton:1983:EBI**
- [SFW83] Gerard Salton, Edward A. Fox, and Harry Wu. Extended Boolean information retrieval. *Communications of the ACM*, 26(11):1022–1036, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Spector:1984:SSP**
- [SG84a] A. Spector and D. Gifford. The space shuttle primary computer system. *Communications of the ACM*, 27(9):874–900, September 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Spector:1984:CSI**
- [SG84b] Alfred Z. Spector and David K. Gifford. Case study: IBM’s System/360–370 architecture. *Communications of the ACM*, 30(4):291–307, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Spector:1986:CSP**
- [SG86] Alfred Spector and David Gifford. A computer science perspective of bridge design. *Communications of the ACM*, 29(4):267–283, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6327.html>.
- Sauter:1983:JHI**
- [SGJ<sup>+</sup>83] Steven L. Sauter, Mark S. Gottlieb, Karen C. Jones, Vernon N. Dodson, and Kathryn M. Rohrer. Job and health implications of VDT use: Initial re-

- sults of the Wisconsin-NIOSH study. *Communications of the ACM*, 26(4):284–294, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SH80] **Shoch:1980:MPE** [Sha84] John F. Shoch and Jon A. Hupp. Measured performance of an Ethernet local network. *Communications of the ACM*, 23(12):711–721, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SH82] **Shoch:1982:CPW** [Sha88] John F. Shoch and Jon A. Hupp. Computing practices: The ‘worm’ programs — early experience with a distributed computation. *Communications of the ACM*, 25(3):172–180, March 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SH85] **Slagle:1985:ESR** [She87] James R. Slagle and Henry Hamburger. An expert system for a resource allocation problem. *Communications of the ACM*, 28(9):994–1004, September 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4291.html>.
- [Sha83] **Shapiro:1983:FGP** E. Y. Shapiro. The fifth generation project — a trip report. *Communications of the ACM*, 26(9):637–641, September 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Shattuck:1984:CMI** J. Shattuck. Computer matching is a serious threat to individual rights. *Communications of the ACM*, 27(6):538, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Shaw:1988:SSO** Alan Shaw. Special section on operating systems. *Communications of the ACM*, 31(3):255–257, March 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42395.html>.
- Shemer:1987:SAS** Itzhak Shemer. Systems analysis: a systemic analysis of a conceptual model. *Communications of the ACM*, 30(6):506–512, June 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214768.html>.
- [Shn82a] **Shneiderman:1982:CFD** Ben Shneiderman. Control flow and data structure documentation: Two experiments. *Communications of the ACM*, 25(1):55–63, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [Shn82b] **Shneiderman:1982:PDC**  
Ben Shneiderman. Pracniques: Designing computer system messages. *Communications of the ACM*, 25(9):610–611, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SI86] **Scott:1986:TTI**  
David S. Scott and S. Sitharama Iyengar. TID — a translation invariant data structure for storing images. *Communications of the ACM*, 29(5):418–429, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5692.html>.
- [Sil83] **Silberman:1983:SPT**  
Gabriel M. Silberman. Stack processing techniques in delayed-staging storage hierarchies. *Communications of the ACM*, 26(11):999–1007, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Sip77] **Sipala:1977:RSM**  
Paolo Sipala. Remark on “Algorithm 408: A Sparse Matrix Package (Part I) [F4]”. *ACM Transactions on Mathematical Software*, 3(3):303, September 1977. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [McN71].
- [SJ89] **Schuler:1989:ICS**  
Douglas Schuler and Jonathan Jacky. Introduction — computing and social responsibilities. *Communications of the ACM*, 32(8):925–927, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214896.html>.
- [SJM+87] **Shrager:1987:IPQ**  
Jeff Shrager, Daniel S. Jordan, Thomas P. Moran, Gregor Kiczales, and Daniel M. Russell. Issues in the pragmatics of qualitative modeling: lessons learned from a xerographics project. *Communications of the ACM*, 30(12):1036–1047, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/33449.html>.
- [SK86] **Stanfill:1986:PFT**  
Craig Stanfill and Brewster Kahle. Parallel free text search on the Connection Machine system. *Communications of the ACM*, 29(12):1229–1239, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7907.html>.
- [SK87] **Srinivasan:1987:RBS**  
Ananth Srinivasan and Kate M. Kaiser. Relationships between selected organizational factors and systems development. *Communications of the ACM*, 30(6):556–562, June 1987. CODEN CACMA2. ISSN 0001-

0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214775.html>.

**Stott:1988:ACU**

[SK88]

Jack W. Stott and Jeffrey E. Kottemann. Anatomy of a compact user interface development tool. *Communications of the ACM*, 31(1):56–66, January 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/35048.html>.

**Skelly:1982:APS**

[Ske82]

Patrick G. Skelly. The ACM position on standardization of the Ada language. *Communications of the ACM*, 25(2):118–120, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Sleeman:1986:SSC**

[Sle86]

Derek H. Sleeman. Special section on the challenges of teaching computer programming. *Communications of the ACM*, 29(9):840–841, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214913.html>.

**Soloway:1988:DDC**

[SLL<sup>+</sup>88]

Elliot Soloway, Robin Lampert, Stan Letovsky, David Littman, and Jeannine Pinto. Designing documentation to compen-

sate for delocalized plans. *Communications of the ACM*, 31(11):1259–1267, November 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/50088.html>.

**Smith:1981:LTF**

[Smi81]

Alan Jay Smith. Long-term file migration: Development and evaluation of algorithms. *Communications of the ACM*, 24(8):521–532, August 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Smith:1985:DDC**

[Smi85]

Henry C. Smith. Database design: composing fully normalized tables from a rigorous dependency diagram. *Communications of the ACM*, 28(8):826–838, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4024.html>.

**Smith:1988:CCP**

[Smi88]

J. E. Smith. Characterizing computer performance with a single number. *Communications of the ACM*, 31(10):1202–1206, October 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63043.html>.

- [Sol86] **Soloway:1986:LPL**  
E. Soloway. Learning to program = learning to construct mechanisms and explanations. *Communications of the ACM*, 29(9):850–858, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6594.html>.
- [Spa89] **Spafford:1989:CA**  
Eugene H. Spafford. The Internet worm: Crisis and aftermath. *Communications of the ACM*, 32(6):678–687, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63527.html>.
- [Spe82] **Spector:1982:PRO**  
Alfred Z. Spector. Performing remote operations efficiently on a local computer network. *Communications of the ACM*, 25(4):246–260, April 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SR82] **Sammet:1982:NCR**  
Jean E. Sammet and Anthony Ralston. The new (1982) Computing Reviews classification system — final version. *Communications of the ACM*, 25(1):13–25, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SR84] **Sammet:1984:SRP**  
Jean E. Sammet and Bernard Rous. Special report: Progress report on the ACM Guide to Computing Literature. *Communications of the ACM*, 27(4):336–341, April 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SR85] **Sammet:1985:RAC**  
Jean E. Sammet and Robert W. Rector. In recognition of the 25th anniversary of Computing Reviews: selected reviews 1960–1984. *Communications of the ACM*, 28(1):53–68, January 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214920.html>.
- [Sri83] **Srinivasan:1983:SDT**  
B. Srinivasan. On the synthesis of decision tables. *Communications of the ACM*, 26(2):135–136, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SS80] **Steele:1980:DLB**  
Guy Lewis Steele, Jr. and Gerald Jay Sussman. Design of a Lisp-based processor. *Communications of the ACM*, 23(11):628–645, November 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SS86a] **Saunders:1986:OPI**  
Carol S. Saunders and Richard W. Scamell. Organizational power



- and the information services department: a reexamination. *Communications of the ACM*, 29 (2):142–147, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5663.html>.
- [SS86b] **Spohrer:1986:NMF**  
James C. Spohrer and Elliot Soloway. Novice mistakes: are the folk wisdoms correct? *Communications of the ACM*, 29 (7):624–632, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6145.html>.
- [SSK+86] **Sergot:1986:BNA**  
M. J. Sergot, F. Sadri, R. A. Kowalski, F. Kriwaczek, P. Hammond, and H. T. Cory. The British Nationality Act as a logic program. *Communications of the ACM*, 29(5):370–386, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5920.html>.
- [ST83] **Schneider:1983:IHC**  
Michael L. Schneider and John C. Thomas. Introduction: The humanization of computer interfaces. *Communications of the ACM*, 26(4):252–253, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [ST85] **Sleator:1985:AEL**  
Daniel D. Sleator and Robert E. Tarjan. Amortized efficiency of list update and paging rules. *Communications of the ACM*, 28 (2):202–208, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2793.html>.
- [ST86] **Sarnak:1986:PPL**  
Neil Sarnak and Robert E. Tarjan. Planar point location using persistent search trees. *Communications of the ACM*, 29 (7):669–679, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6151.html>.
- [Sta86] **Stark:1986:CLP**  
W. Richard Stark. Comment on: “Logic programming” [Comm. ACM, 28, 1985, 9, 933–941] by M. R. Genesereth and M. L. Ginsberg, with a reply by the authors. *Communications of the ACM*, 29(4):331, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste82] **Sterling:1982:UPD**  
Theodor D. Sterling. Unionization of professionals in data processing: An assessment of recent trends. *Communications of the ACM*, 25(11):807–816, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [Ste83] **Steier:1983:CKI**  
Rosalie Steier. Cooperation is the key: An interview with B. R. Inman. *Communications of the ACM*, 26(9):642–645, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste84] **Steier:1984:MU**  
Rosalie Steier. An MCC update. *Communications of the ACM*, 27(7):636–637, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste85a] **Stefik:1985:CSC**  
Mark Stefik. Corrigendum: “Strategic Computing at DARPA: Overview and Assessment”. *Communications of the ACM*, 28(8):788, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Ste85b].
- [Ste85b] **Stefik:1985:SCD**  
Mark Stefik. Strategic computing at DARPA: overview and assessment. *Communications of the ACM*, 28(7):690–704, July 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3896.html>. See corrigendum [Ste85a].
- [Ste86a] **Steier:1986:Aa**  
Rosalie Steier. Authors. *Communications of the ACM*, 29(1):1–2, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86b] **Steier:1986:Ab**  
Rosalie Steier. Authors. *Communications of the ACM*, 29(2):83, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86c] **Steier:1986:Ac**  
Rosalie Steier. Authors. *Communications of the ACM*, 29(3):171–172, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86d] **Steier:1986:Ad**  
Rosalie Steier. Authors. *Communications of the ACM*, 29(4):259, April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86e] **Steier:1986:Ae**  
Rosalie Steier. Authors. *Communications of the ACM*, 29(5):357–358, May 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86f] **Steier:1986:Af**  
Rosalie Steier. Authors. *Communications of the ACM*, 29(6):465, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86g] **Steier:1986:Ag**  
Rosalie Steier. Authors. *Communications of the ACM*, 29(7):577–579, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [Ste86h] Rosalie Steier. Authors. *Communications of the ACM*, 29(8): 705–706, August 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86i] Rosalie Steier. Authors. *Communications of the ACM*, 29(9): 825–826, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86j] Rosalie Steier. Authors. *Communications of the ACM*, 29(10):927, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86k] Rosalie Steier. Authors. *Communications of the ACM*, 29(11): 1023–1025, November 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86l] Rosalie Steier. Authors. *Communications of the ACM*, 29(12): 1127–1128, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86m] Rosalie Steier. From Washington. *Communications of the ACM*, 29(1):3, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86n] Rosalie Steier. From Washington. *Communications of the ACM*, 29(4):266–ff., April 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86o] Rosalie Steier. From Washington. *Communications of the ACM*, 29(6):470, June 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste86p] Rosalie Steier. From Washington. *Communications of the ACM*, 29(3):183, March 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste89a] Rosalie Steier. News track. *Communications of the ACM*, 32(3): 285–286, March 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Ste89b] Scott M. Stevens. Intelligent interactive video simulation of a code inspection. *Communications of the ACM*, 32(7):832–843, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65450.html>.

- [Sto81] **Stonebraker:1981:OSS**  
M. Stonebraker. Operating system support for database management. *Communications of the ACM*, 24(7):412–418, July 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprinted in M. Stonebraker, Readings in Database Sys., Morgan Kaufmann, San Mateo, CA, 1988.
- [Sto88a] **Stoll:1988:SWH**  
Clifford Stoll. Stalking the wily hacker. *Communications of the ACM*, 31(5):484–497, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42412.html>.
- [Sto88b] **Stonebraker:1988:RDS**  
Michael Stonebraker, editor. *Readings in Database Systems*. Morgan Kaufmann Publishers, Los Altos, CA 94022, USA, 1988. ISBN 0-934613-65-6. xii + 644 pp. LCCN QA76.9.D3 R4 1988. US\$29.95.
- [Sun90] **Sunday:1990:VFS**  
Daniel M. Sunday. A very fast substring search algorithm. *Communications of the ACM*, 33(8):132–142, August 1990. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See also [BM77] and [KMP77].
- [Sus63] **Sussenguth:1963:UTS**  
Edward H. Sussenguth, Jr. Use of tree structures for processing files. *Communications of the ACM*, 6(5):272–279, May 1963. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Sus83] **Sussenguth:1983:UTS**  
Edward H. Sussenguth, Jr. Use of tree structures for processing files (reprint). *Communications of the ACM*, 26(1):17–20, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Sus63].
- [Sus89] **Sutherland:1989:M**  
I. E. Sutherland. Micropipelines. *Communications of the ACM*, 32(6):720–738, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63532.html>.
- [Suz82] **Suzuki:1982:APR**  
Norihsa Suzuki. Analysis of pointer “rotation”. *Communications of the ACM*, 25(5):330–335, May 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [SV87] **Stasko:1987:PHE**  
John T. Stasko and Jeffrey Scott Vitter. Pairing heaps: Experiments and analysis. *Communications of the ACM*, 30(3):234–249, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www>.

acm.org/pubs/toc/Abstracts/0001-0782/214759.html.

**Shearer:1985:ASS**

[SW85]

J. M. Shearer and M. A. Wolfe. ALGLIB, a simple symbol-manipulation package. *Communications of the ACM*, 28(8): 820–825, August 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/4023.html>.

**Stanfill:1986:TMB**

[SW86a]

Craig Stanfill and David Waltz. Toward memory-based reasoning. *Communications of the ACM*, 29(12):1213–1228, December 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/7906.html>.

**Stout:1986:TRO**

[SW86b]

Q. F. Stout and B. L. Warren. Tree rebalancing in optimal time and space. *Communications of the ACM*, 29(9): 902–908, September 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6599.html>.

**Smith:1988:HIS**

[SW88]

John B. Smith and Stephen F. Weiss. Hypertext: Introduction to the special issue. *Communications of the ACM*, 31

(7):816–819, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48512.html>.

**Straub:1989:ITO**

[SW89]

Detmar W. Straub, Jr. and James C. Wetherbe. Information technologies for the 1990's: An organizational impact perspective. *Communications of the ACM*, 32(11):1328–1339, November 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/68818.html>.

**Tartar:1985:SRF**

[TAB<sup>+</sup>85]

John Tartar, Bruce Arden, Taylor Booth, Peter Denning, Ray Miller, and Andries van Dam. The 1984 Snowbird Report: future issues in computer science. *Communications of the ACM*, 28(5):490–493, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214931.html>.

**Tamminen:1984:CQO**

[Tam84]

Markku Tamminen. Comments on quad- and octtrees. *Communications of the ACM*, 27(3): 248–249, March 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

- [Tar87] **Tarjan:1987:AD**  
 Robert E. Tarjan. Algorithm design. *Communications of the ACM*, 30(3):204–212, March 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214752.html>.
- [Thi89] **Thimbleby:1989:RDC**  
 Harold Thimbleby. A review of Donald C. Lindsay’s text file difference utility, *diff*. *Communications of the ACM*, 32(6):754–755, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [VR89].
- [Tay83] **Taylor:1983:GPA**  
 Richard N. Taylor. A general-purpose algorithm for analyzing concurrent programs. *Communications of the ACM*, 26(5):362–376, May 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Tho84] **Thompson:1984:RTT**  
 Ken Thompson. Reflections on trusting trust. *Communications of the ACM*, 27(8):761–763, August 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.cl.cam.ac.uk/~fapp2/steganography/bibliography/1028.html>.
- [TDP89] **Terrano:1989:UAK**  
 Anthony E. Terrano, Stanley M. Dunn, and Joseph E. Peters. Using an architectural knowledge base to generate code for parallel computers. *Communications of the ACM*, 32(9):1065–1072, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66453.html>.
- [Tho86] **Thompson:1986:MDA**  
 Clark Thompson. Military direction of academic CS research. *Communications of the ACM*, 29(7):583–585, July 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6139.html>.
- [Tez87] **Tezuka:1987:WST**  
 Shu Tezuka. Walsh-spectral test for GFSR pseudorandom numbers. *Communications of the ACM*, 30(8):731–735, August 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/27657.html>.
- [Til84] **Tilove:1984:NOD**  
 R. B. Tilove. A null-object detection algorithm for constructive solid geometry. *Communications of the ACM*, 27(7):684–694, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Tin89] **Tinker:1989:DPI**  
 Michael Tinker. DVI parallel image compression. *Com-*

- munications of the ACM*, 32 (7):844–851, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65451.html>.
- [TKM<sup>+</sup>89] John Tillquist and Feng-Yang Kuo. An approach to the recursive retrieval problem in the relational database. *Communications of the ACM*, 32(2):239–245, February 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63348.html>.
- [TKM<sup>+</sup>89] Samson W. Tu, Michael G. Kahn, Mark A. Musen, Lawrence M. Fagan, and Jay C. Ferguson. Episodic skeletal-plan refinement based on temporal data. *Communications of the ACM*, 32(12):1439–1455, December 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/76384.html>.
- [TR81] Tim Teitelbaum and Thomas Reps. The Cornell Program Synthesizer: a syntax-directed programming environment. *Communications of the ACM*, 24(9):563–573, September 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Tra81] Joseph Traub. Quo vadimus: Computer science in a decade. *Communications of the ACM*, 24(6):351–369, June 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Tra82] Allen E. Tracht. Remark on “Algorithm 334: Normal Random Deviates”. *ACM Transactions on Mathematical Software*, 8(1):89, March 1982. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [Bel68].
- [Tsi82] Dennis Tschritzis. Form management. *Communications of the ACM*, 25(7):453–478, July 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [TT82] A. L. Tharp and K.-C. Tai. The practicality of text signatures for accelerating string searching. *Software — Practice and Experience*, 12(1):35–44, January 1982. CODEN SPEXBL. ISSN 0038-0644 (print), 1097-024X (electronic). Expands Harrison’s work [Har71].
- See also: Report TR 80-421, Department of Computer Science, Cornell University, Ithaca, NY (May 1980).

**Tillquist:1989:ARR****Tu:1989:ESP****Teitelbaum:1981:CPS****Traub:1981:QVC****Tracht:1982:RNR****Tsichritzis:1982:FM****Tharp:1982:PTS**

- Trevathan:1984:DAN**
- [TTH<sup>+</sup>84] Charles E. Trevathan, Thomas D. Taylor, Raymond G. Hartenstein, Ann. C. Merwarth, and William N. Stewart. Development and application of NASA's first standard spacecraft computer. *Communications of the ACM*, 27(9):902–913, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Tucker:1984:PMT**
- [Tuc84] Allen B. Tucker. A perspective on machine translation: Theory and practice. *Communications of the ACM*, 27(4):322–329, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Turner:1980:SMP**
- [Tur80] Joshua Turner. The structure of modular programs. *Communications of the ACM*, 23(5):272–277, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Turba:1982:LSL**
- [Tur82] T. N. Turba. Length-segmented lists. *Communications of the ACM*, 25(8):522–526, August 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Turner:1984:CMW**
- [Tur84] Jon Turner. Computer mediated work: The interplay between technology and structured jobs. *Communications of the ACM*, 27(12):1210–1217, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Turner:1985:CSS**
- [Tur85] A. J. Turner. Computer science in secondary schools: curriculum and teacher certification. *Communications of the ACM*, 28(3):269–279, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3168.html>.
- Tanenbaum:1983:PTK**
- [TvSKS83] Andrew S. Tanenbaum, Hans van Staveren, E. G. Keizer, and J. W. Stevenson. A practical tool kit for making portable compilers. *Communications of the ACM*, 26(9):654–660, September 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Teorey:1989:MCA**
- [TWBK89] Toby J. Teorey, Guangping Wei, Deborah L. Bolton, and John A. Koenig. ER model clustering as an aid for user communication and documentation in database design. *Communications of the ACM*, 32(8):975–987, August 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65976.html>.
- Triance:1980:MPM**
- [TY80] J. M. Triance and J. F. S. Yow. MCOBOL — a prototype macro



- facility for Cobol. *Communications of the ACM*, 23(8):432–439, 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [UH89] Jayaram K. Udupa and Gabor T. Herman. Volume rendering versus surface rendering. *Communications of the ACM*, 32(11):1364–1367, November 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [US88] Narayan S. Umanath and Richard W. Schmell. An experimental evaluation of the impact of data display format on recall performance. *Communications of the ACM*, 31(5):562–570, May 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/42419.html>.
- [Val84] Leslie G. Valiant. A theory of the learnable. *Communications of the ACM*, 27(11):1134–1142, November 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Van87] Carolynn Van Dyke. Taking “Computer Literacy” literally. *Communications of the ACM*, 30(5):366–374, May 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [van88] Andries van Dam. Hypertext ’87: Keynote address. *Communications of the ACM*, 31(7):887–895, July 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/22901.html>.
- [VHC88] Christopher J. Van Wyk, Eric Hamilton, and Don Colner. Literate programming: Expanding generalized regular expressions. *Communications of the ACM*, 31(12):1376–1385, December 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [VHG87] Christopher J. Van Wyk, David R. Hanson, and John Gilbert. Literate programming: Printing common words. *Communications of the ACM*, 30(7):594–599, July 1987. CODEN CACMA2.

**Udupa:1989:VRV**

**Umanath:1988:EEI**

**Valiant:1984:TL**

**VanDyke:1987:TCL**

**vanDam:1988:HKA**

**Vitalari:1983:PSE**

**VanWyk:1988:LPE**

**VanWyk:1987:LPPa**

- ISSN 0001-0782 (print), 1557-7317 (electronic). URL <ftp://ftp.cs.princeton.edu/pub/packages/loom.tar.Z>. See another solution to the problem of printing the  $k$  most common words of a text file in [BKM86].
- [VR82] **Vikas:1982:SDM**  
Om Vikas and V. Rajaraman. Searching in a dynamic memory with fast sequential access. *Communications of the ACM*, 25(7):479–484, July 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Vit82] **Vitter:1982:ICH**  
J. S. Vitter. Implementations for coalesced hashing. *Communications of the ACM*, 25(12):911–926, December 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Vit84] **Vitter:1984:FMR**  
Jeffrey Scott Vitter. Faster methods for random sampling. *Communications of the ACM*, 27(7):703–718, July 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [VJW87] **VanWyk:1987:LPPb**  
Christopher J. Van Wyk, Michael Jackson, and David W. Wall. Literate programming: Processing transactions. *Communications of the ACM*, 30(12):1000–1010, December 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [VL89] **VanWyk:1989:LPF**  
Christopher J. Van Wyk and Donald C. Lindsay. Literate programming: a file difference program. *Communications of the ACM*, 32(6):740–754, June 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See review [Thi89].
- [VR89] **VanWyk:1989:LPW**  
Christopher J. Van Wyk and Norman Ramsey. Literate programming: Waving a language-independent WEB. *Communications of the ACM*, 32(9):1051–1055, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Vui80] **Vuillemin:1980:ULD**  
Jean Vuillemin. A unifying look at data structures. *Communications of the ACM*, 23(4):229–239, April 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [VVG85] **Vitalari:1985:CHS**  
Nicholas P. Vitalari, Alladi Venkatesh, and Kjell Gronhaug. Computing in the home: shifts in the time allocation patterns of households. *Communications of the ACM*, 28(5):512–522, May 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3537.html>.
- [VW83] **Vessey:1983:SFA**  
Iris Vessey and Ron Weber. Some factors affecting program

- repair maintenance: An empirical study. *Communications of the ACM*, 26(2):128–134, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [VW86] Iris Vessey and Ron Weber. Structured tools and conditional logic: an empirical investigation. *Communications of the ACM*, 29(1):48–57, January 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5470.html>.
- [WAB<sup>+</sup>88] J. D. Wilson, E. S. Adams, H. P. Baouendi, W. A. Marion, and G. J. Yaverbaum. Computer science education in the People's Republic of China in the late 1980s. *Communications of the ACM*, 31(8):956–964, August 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63031.html>.
- [WAC84] Robert Wilensky, Yigal Arens, and David N. Chin. Talking to UNIX in English: An overview of UC. *Communications of the ACM*, 27(6):574–593, June 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wad84] Ben Tsutomu Wada. A virtual memory system for picture processing. *Communications of the ACM*, 27(5):444–454, May 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wai84] Roger L. Wainwright. A class of sorting algorithms based on Quicksort. *Communications of the ACM*, 28(4):396–403, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wai85] Roger L. Wainwright. A class of sorting algorithms based on Quicksort. *Communications of the ACM*, 28(4):396–402, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3348.html>.
- [Wat82] Marvin L. Watkins. A technique for testing command and control software. *Communications of the ACM*, 25(4):228–232, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [WB85] Ian H. Witten and Bob Bramwell. A system for interactive viewing of structured documents. *Communications of the ACM*, 28

- (3):280–288, March 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3169.html>.
- [WC84] Robert I. Winner and Edward M. Carter. Self-assessment procedure XII: a self-assessment procedure dealing with computer architecture. *Communications of the ACM*, 27(1):29–36, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Web88] Ron Weber. Computer technology and jobs: an impact assessment model. *Communications of the ACM*, 31(1):68–77, January 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/35049.html>.
- [Weg81] Peter Wegner. Self-assessment procedure VIII: a self-assessment procedure dealing with the programming language Ada. *Communications of the ACM*, 24(10):647–678, 1981. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wei66] J. Weizenbaum. ELIZA — a computer program for the study of natural language communication between man and machine. *Communications of the ACM*, 9(1):36–44, January 1966. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wei82a] Mark Weiser. Programmers use slices when debugging. *Communications of the ACM*, 25(7):446–452, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wei82b] Eric A. Weiss. Self-assessment procedure IX: a self-assessment procedure dealing with ethics in computing. *Communications of the ACM*, 25(3):181–195, March 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wei83a] Eric A. Weiss. Self-assessment procedure XI: a self-assessment procedure dealing with one part of early computing history. *Communications of the ACM*, 26(7):479–482, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- [Wei83b] Joseph Weizenbaum. ELIZA — a computer program for the study of natural language communication between man and machine (reprint). *Communications of the ACM*, 26(1):23–28, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Wei66].

**Winner:1984:SAP**

[Wei82a]

**Weiser:1982:PUS****Weber:1988:CTJ**

[Wei82b]

**Weiss:1982:SAP****Weiss:1983:SAP**

[Wei83a]

**Wegner:1981:SAP**

[Wei83b]

**Weizenbaum:1983:ECP****Weizenbaum:1966:ECP**

- Weicker:1984:DSS**
- [Wei84] Reinhold Weicker. DHRYS-TONE: a synthetic systems programming benchmark. *Communications of the ACM*, 27(10):1013–1030, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Weiss:1987:CPY**
- [Wei87a] Eric A. Weiss. Commentaries on the past 15 years. *Communications of the ACM*, 30(10):880–883, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30420.html>.
- Weiss:1987:SAP**
- [Wei87b] Eric A. Weiss. Self-assessment procedure XVII. *Communications of the ACM*, 30(10):886–891, October 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/30421.html>.
- Welsch:1982:UEM**
- [Wel82] L. A. Welsch. Using electronic mail as a teaching tool. *Communications of the ACM*, 25(2):105–108, February 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Weyuker:1988:EPB**
- [Wey88] E. J. Weyuker. The evaluation of program-based software test data adequacy criteria. *Communications of the ACM*, 31(6):668–675, June 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/62963.html>.
- Wasserman:1982:FP**
- [WG82] Anthony I. Wasserman and Steven Gutz. The future of programming. *Communications of the ACM*, 25(3):196–206, 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Wheeler:2009:FCT**
- [Whe09] David A. Wheeler. *Fully Countering Trusting Trust through Diverse Double-Compiling*. Ph.D. dissertation, George Mason University, Fairfax, VA, USA, Fall 2009. URL <https://www.dwheeler.com/trusting-trust>.
- Whitted:1980:IIM**
- [Whi80] Turner Whitted. An improved illumination model for shaded display. *Communications of the ACM*, 23(6):343–349, June 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).
- Wicklund:1982:MEP**
- [Wic82] Thomas L. Wicklund. MINI-EXEC: a portable executive for 8-bit microcomputers. *Communications of the ACM*, 25(11):772–780, 1982. CODEN

CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wichmann:1984:ATB**

- [Wic84] Brian A. Wichmann. Is Ada too big? A designer answers the critics. *Communications of the ACM*, 27(2):98–103, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wile:1983:PDF**

- [Wil83a] D. Wile. Program developments: formal explanations of implementations. *Communications of the ACM*, 26(11):902–911, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Will:1983:ALS**

- [Wil83b] H. J. Will. ACL: a language specific for auditors. *Communications of the ACM*, 26(5):356–361, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wilmot:1984:FKD**

- [Wil84] Richard B. Wilmot. Foreign keys decrease adaptability of database designs. *Communications of the ACM*, 27(12):1237–1243, December 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Winston:1980:LRA**

- [Win80] Patrick H. Winston. Learning and reasoning by analogy. *Communications of the ACM*, 23(12):

689–702, December 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wirth:1971:PDS**

- [Wir71] Niklaus Wirth. Program development by stepwise refinement. *Communications of the ACM*, 14(4):221–227, April 1971. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wirth:1983:PDS**

- [Wir83] Niklaus Wirth. Program development by stepwise refinement (reprint). *Communications of the ACM*, 26(1):70–74, January 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). Reprint of [Wir71].

**Wirth:1985:PLD**

- [Wir85] Niklaus Wirth. From programming language design to computer construction. *Communications of the ACM*, 28(2):160–164, February 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/2789.html>.

**Wirth:1986:MAC**

- [Wir86] Niklaus Wirth. Microprocessor architectures: a comparison based on code generation by compiler. *Communications of the ACM*, 29(10):978–990, October 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317

(electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/6619.html>.

**Weitzel:1988:DKB**

- [WK88] John R. Weitzel and Larry Kerschberg. Developing knowledge-based systems: Reorganizing the system development life cycle. *Communications of the ACM*, 32(4):482–488, 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Weitzel:1989:DKB**

- [WK89] John R. Weitzel and Larry Kerschberg. Developing knowledge-based systems: reorganizing the system development life cycle. *Communications of the ACM*, 32(4):482–488, April 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63340.html>.

**Walker:1980:SVU**

- [WKP80] B. J. Walker, R. A. Kemmerer, and G. J. Popek. Specification and verification of the UCLA Unix security kernel. *Communications of the ACM*, 23(2):118–131, February 1980. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wu:1992:FTS**

- [WM92] Sun Wu and Udi Manber. Fast text searching allowing errors. *Communications of the ACM*, 35(10):83–91, October 1992. CODEN CACMA2. ISSN 0001-

0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/135244.html>. This algorithm in this paper is implemented in the `agrep` program, publicly available via ANONYMOUS FTP to `cs.arizona.edu` in the `agrep` subdirectory. See also [BYG92].

**Witten:1987:ACD**

- [WNC87] Ian H. Witten, Radford M. Neal, and John G. Cleary. Arithmetic coding for data compression. *Communications of the ACM*, 30(6):520–540, June 1987. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/214771.html>.

**Wolfram:1984:SSC**

- [Wol84a] Stephen Wolfram. Special section on computing at the frontiers of theoretical physics — introduction. *Communications of the ACM*, 28(4):352–353, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wolfram:1984:SMC**

- [Wol84b] Stephen Wolfram. Symbolic mathematical computation. *Communications of the ACM*, 28(4):390–394, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wolfram:1985:SMC**

- [Wol85] Stephen Wolfram. Symbolic mathematical computation. *Com-*

*munications of the ACM*, 28 (4):390–394, April 1985. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/3347.html>.

**Watanabe:1983:SDL**

- [WOS83] T. Watanabe, T. Ohsawa, and T. Suzuki. A simple database language for personal computers. *Communications of the ACM*, 26(9):646–653, September 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wagner:1989:EDD**

- [WP89] Neal R. Wagner and Paul Putter. Error detecting decimal digits. *Communications of the ACM*, 32(1):106–110, January 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63246.html>.

**Wallis:1984:RAA**

- [WW84] Peter J. L. Wallis and Brian A. Wichmann. Requirements analysis for Ada compilers. *Communications of the ACM*, 27(1):37–41, 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Whang:1983:EBA**

- [WWS83] Kyu Young Whang, Gio Wiederhold, and Daniel Sagalowicz. Estimating block accesses in database organizations: a closed

noniterative formula. *Communications of the ACM*, 26(11):940–944, November 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Wielgus:1990:AFM**

- [WWSD90] Martin Wielgus, Marvin L. Watkins, Edward Sacharuk, and Srinivasarao Damerla. ACM Forum: More debatable. *Communications of the ACM*, 33(4):396–397, April 1990. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Dij89b, BSE<sup>+</sup>90].

**Yadav:1988:CAT**

- [YBCR88] Surya B. Yadav, Ralph R. Bravoco, Akemi T. Chatfield, and T. M. Rajkumar. Comparison of analysis techniques for information requirement determination. *Communications of the ACM*, 31(9):1090–1097, September 1988. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/48533.html>.

**Yen:1989:GDS**

- [Yen89] John Yen. GERTIS: a Dempster-Shafer approach to diagnosing hierarchical hypotheses. *Communications of the ACM*, 32(5):573–585, May 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63488.html>.



**Young:1989:HLK**

- [YHW+89] S. L. Young, A. G. Hauptmann, W. H. Ward, E. T. Smith, and P. Werner. High level knowledge sources in usable speech recognition systems. *Communications of the ACM*, 32(2): 183–194, February 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/63344.html>.

**Yoche:1989:BPC**

- [YL89] E. Robert Yoche and Arthur J. Levine. Basic principles of copyright protection for computer software. *Communications of the ACM*, 32(5):544–545, 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Yeh:1986:DIA**

- [YM86] D. Yun Yeh and Toshinori Munakata. Dynamic initial allocation and local reallocation procedures for multiple stacks. *Communications of the ACM*, 29(2): 134–141, February 1986. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/5662.html>.

**Yoche:1989:LPC**

- [Yoc89] E. Robert Yoche. Legal protection for computer software. *Communications of the ACM*, 32(2):169–171, 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Yau:1983:MCC**

- [YRS+83] S. S. Yau, R. W. Ritchie, W. Seimon, J. Traub, A. Van Dam, and S. Winkler. Meeting the crisis in computer science. *Communications of the ACM*, 26(12): 1046–1050, December 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Yau:1983:HDS**

- [YS83] M.-M. Yau and S. N. Srihari. A hierarchical data structure for multidimensional digital images. *Communications of the ACM*, 26(7):504–515, July 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Yu:1989:EPA**

- [YSB+89] Clement Yu, Wei Sun, Dina Bitton, Qi Yang, Richard Bruno, and John Tullis. Efficient placement of audio data on optical disks for real-time applications. *Communications of the ACM*, 32(7):862–871, July 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/65453.html>.

**Zaki:1983:REF**

- [Zak83] Ahmed S. Zaki. Regulation of electronic funds transfer: Impact and legal issues. *Communications of the ACM*, 26(2):112–118, 1983. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Zave:1984:OVC**

- [Zav84] Pamela Zave. The operational versus the conventional approach to software development. *Communications of the ACM*, 27(2): 104–118, February 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Zhang:1984:FPA**

- [ZS84] T. Y. Zhang and C. Y. Suen. A fast parallel algorithm for thinning digital patterns. *Communications of the ACM*, 27(3): 236–239, March 1984. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Zahorjan:1982:BJB**

- [ZSEG82] John Zahorjan, Kenneth C. Sevick, Derek L. Eager, and Bruce Galler. Balanced job bound analysis of queueing networks. *Communications of the ACM*, 25(2): 134–141, February 1982. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

**Zhu:1989:TTD**

- [ZT89] Rui Feng Zhu and Tadao Takaoka. A technique for two-dimensional pattern matching. *Communications of the ACM*, 32(9):1110–1120, September 1989. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0001-0782/66459.html>.