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Valued [238, 239, 241–243, 267]. **variable** [362]. **VAX** [45, 57]. **VAX-11** [45]. **VAX/VMS** [57]. **Vector** [20, 251, 329, 341]. **Vehicle** [318]. **Verification** [107, 248, 252]. **Very** [49, 162]. **Very-Large-Scale** [49]. **VHSIC** [111]. **via** [362]. **Videotex** [21]. **Views** [136, 155]. **Virtual** [57]. **Vision** [69, 100, 183, 185, 322, 357, 359]. **Visual**

[82, 123, 140, 235, 345]. **Visualization** [121, 328, 331, 333–338]. **Visualizing** [332, 346, 347]. **Visually** [33]. **VLSI** [1, 65, 84, 88, 108, 135, 233, 240, 265, 300, 307, 349]. **VMS** [57]. **vs** [225, 251].

Wang [312]. **Wars** [37]. **Wavefront** [173]. **Were** [60]. **Whistle** [301]. **wide** [12]. **wide-band** [12]. **Windows** [152]. **Workbench** [301]. **Workstation** [123]. **world** [82]. **Write** [247]. **Write-Once** [247]. **Writing** [127].

X [279, 341]. **X-MP** [279, 341]. **Xerox** [340].

Zeus [109]. **ZS** [324]. **ZS-1** [324].

References

Foster:1980:DSV

- [1] M. J. Foster and H. T. Kung. The design of special-purpose VLSI chips. *Computer*, 13(1):26–40, January 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Coonen:1980:IGP

- [2] Jerome T. Coonen. An implementation guide to a proposed standard for floating-point arithmetic. *Computer*, 13(1):68–79, January 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See errata in [24]. See [?, ?].

Thornton:1980:BNA

- [3] J. E. Thornton. Back-end network approaches. *Computer*, 13(2):10–17, February 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chlamatac:1980:PIB

- [4] I. Chlamatac, W. R. Franta, P. C. Patton, B., and Wells. Performance issues in back-end storage networks. *Computer*, 13(2):18–31, February 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Butland:1980:EGD

- [5] J. Butland and S. D. Butland. An easy-to-use graph drawing package. *Computer*, 13(2):69–80, February 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hayes:1980:TCM

- [6] J. P. Hayes and E. J. McCluskey. Testability considerations in microprocessor-based design. *Computer*, 13(3):17–26, March 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Pradhan:1980:ECS

- [7] D. K. Pradhan and J. J. Stiffler. Error-correcting codes and self-checking circuits. *Computer*, 13(3):27–37, March 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Peacock:1980:DSU

- [8] K. Peacock, E. Manning, and J. Wong. Synchronization of distributed simulation using broadcast algorithms. *Computer*, 13(4):3–10, April 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Buzen:1980:MCQ

- [9] Jeffrey P. Buzen and Peter J. Denning. Measuring and calculating queue length distributions. *Computer*, 13(4):

33–44, April 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Johnson:1980:LDT

- [10] Steven C. Johnson. Language development tools on the Unix system. *Computer*, 13(8):16–24, August 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Leverett:1980:OPC

- [11] Bruce W. Leverett, R. G. G. Cattell, S. O. Hobbs, J. M. Newcomer, A. H. Reiner, B. R. Schatz, and W. A. Wulf. An overview of the Production Quality Compiler-Compiler Project. *Computer*, 13(8):38–49, August 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Wilkes:1980:IWL

- [12] M. V. Wilkes. The impact of wide-band local area communication systems on distributed computing. *Computer*, 13(9):22–25, September 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Isloor:1980:DPO

- [13] S. S. Isloor and T. A. Marsland. The deadlock problem: An overview. *Computer*, 13(9):58–78, September 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Flynn:1980:DIA

- [14] M. Flynn. Directions and issues in architecture and language. *Computer*, 13(10):5–22, October 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Rodrigue:1980:PLS

- [15] G. Rodrigue, E. D. Giroux, and M. Pratt. Perspectives on large-scale scientific computation. *Computer*, 13(10):65–80, October 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Boberg:1980:PMS

- [16] R. W. Boberg et al. Proposed Microcomputer System 796 Bus Standard. *Computer*, 13(10):89–105, October 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Vick:1980:AAS

- [17] C. R. Vick, S. P. Kartashev, and S. I. Kartashev. Adaptable architectures for super systems. *Computer*, 13(11):17–35, November 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Dennis:1980:DFS

- [18] Jack B. Dennis. Data flow supercomputers. *Computer*, 13(11):48–56, November 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chu:1980:TAD

- [19] W. W. Chu, L. J. Holloway, M. Lan, and K. Efe. Task allocation in distributed data processing. *Computer*, 13(11):57–69, November 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kozdrowicki:1980:SGV

- [20] E. W. Kozdrowicki and Douglas J. Theis. Second generation of vector supercomputers. *Computer*, 13(11):71–83, November 1980. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic).

Ball:1980:VN

- [21] A. J. S. Ball, G. V. Bochmann, and J. Gecsei. Videotex networks. *Computer*, 13(12):8–14, December 1980. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Myers:1981:CGR

- [22] W. Myers. Computer graphics: Reaching the user. *Computer*, 14(3):7–10, 14, 17, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Stevenson:1981:PSB

- [23] David Stevenson. A proposed standard for binary floating-point arithmetic. *Computer*, 14(3):51–62, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Coonen:1981:EIG

- [24] Jerome T. Coonen. Errata: An Implementation Guide to a Proposed Standard for Floating Point Arithmetic. *Computer*, 14(3):62, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See [2, ?, ?].

Cody:1981:APF

- [25] William J. Cody, Jr. Analysis of proposals for the floating-point standard. *Computer*, 14(3):63–68, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hough:1981:API

- [26] David Hough. Applications of the proposed IEEE-754 standard for floating

point arithmetic. *Computer*, 14(3):70–74, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Coonen:1981:UDN

- [27] Jerome T. Coonen. Underflow and the denormalized numbers. *Computer*, 14(3):75–87, March 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kernighan:1981:UPE

- [28] B. W. Kernighan and J. R. Mashey. The Unix programming environment. *Computer*, 14(4):12–24, April 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Teitelman:1981:IPE

- [29] Warren Teitelman and Larry Masinter. The Interlisp programming environment. *Computer*, 14(4):25–33, April 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Zloof:1981:QOA

- [30] M. M. Zloof. QBE/OBE: A language for office and business automation. *Computer*, 14(5):13–22, May 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Stenning:1981:AEA

- [31] V. Stenning, R. Froggatt, R. Gilbert, and E. Thomas. The Ada environment: A perspective. *Computer*, 14(6):26–36, June 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Sussman:1981:SLC

- [32] Gerald Jay Sussman, Jack Holloway, Guy Lewis Steele, Jr., and Alan Bell. Scheme-79 — Lisp on a chip. *Computer*, 14(7):10–21, July 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Webb:1981:VIM

- [33] Jon A. Webb and J. K. Aggarwal. Visually interpreting the motion of objects in space. *Computer*, 14(8):40–46, August 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cohler:1981:FPA

- [34] E. U. Cohler and J. E. Storer. Functionally parallel architecture for array processors. *Computer*, 14(9):28–36, September 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Maron:1981:IAP

- [35] N. Maron and T. A. Brengle. Integrating an array processor into a scientific computing system. *Computer*, 14(9):41–44, September 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Brode:1981:PFPP

- [36] B. Brode. Precompilation of Fortran programs to facilitate array processing. *Computer*, 14(9):46–51, September 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cohen:1981:HWP

- [37] Danny Cohen. On Holy Wars and a plea for peace. *Computer*, 14(10):48–54, October 1981. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic). This is an entertaining account of the Big-Endian and Little-Endian problems of bit and byte ordering.

Pohm:1981:CMS

- [38] A. V. Pohm and T. A. Smay. Computer memory systems. *Computer*, 14(10):93–110, October 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chang:1981:PDB

- [39] S. K. Chang and T. L. Kunii. Pictorial data base systems. *Computer*, 14(11):13–21, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chang:1981:PQL

- [40] N. S. Chang and K. S. Fu. Picture query languages for pictorial database systems. *Computer*, 14(11):23–33, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Zobrist:1981:PIP

- [41] A. L. Zobrist and G. Nagy. Pictorial information processing of LANDSAT data for geographic analysis. *Computer*, 14(11):34–41, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chock:1981:MDS

- [42] Margaret Chock, Alfonso F. Cardenas, and Allen Klinger. Manipulating data structures in pictorial information systems. *Computer*, 14(11):43–50, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Dias:1981:PSI

- [43] D. M. Dias and J. R. Jump. Packet switching interconnection networks for modular systems. *Computer*, 14(12):43–53, December 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chen:1981:INU

- [44] P.-Y. Chen, D. H. Lawrie, P.-C. Yew, and D. A. Padua. Interconnection networks using shuffles. *Computer*, 14(12):55–63, December 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Satyanarayanan:1981:DTV

- [45] M. Satyanarayanan and D. P. Bhandarkar. Design trade-offs in VAX-11 translation buffer organization. *Computer*, 14(12):103–111, December 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Plattner:1981:MPE

- [46] B. Plattner and J. Nievergelt. Monitoring program execution: A survey. *Computer*, 16(11):76–93, November 1981. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lantz:1982:RIG

- [47] K. A. Lantz, K. D. Gradischnig, J. A. Feldman, R. F., and Rashid. Rochester's intelligent gateway. *Computer*, 11(10):54–68, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Haynes:1982:SHP

- [48] L. S. Haynes, R. L. Lau, D. P. Siewiorek, and D. W. Mizel. A survey of highly

parallel computing. *Computer*, 15(1):9–24, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gottlieb:1982:NAV

- [49] Allan Gottlieb and J. T. Schwartz. Networks and algorithms for very-large-scale parallel computation. *Computer*, 15(1):27–36, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kung:1982:WSA

- [50] H. T. Kung. Why systolic architectures? *Computer*, 15(1):37–46, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ahmed:1982:HCC

- [51] H. M. Ahmed, J. M. Delosme, and M. Morf. Highly concurrent computing structures for matrix arithmetic and signal processing. *Computer*, 15(1):65–82, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Agerwala:1982:DS

- [52] T. Agerwala and Arvind. DataFlow systems. *Computer*, 15(2):10–30, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ackerman:1982:DFL

- [53] W. B. Ackerman. Data flow languages. *Computer*, 15(2):15–25, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Davis:1982:DFP

- [54] Alan L. Davis and Robert M. Keller. Data flow program graphs. *Computer*,

15(2):26–41, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Watson:1982:PDF

- [55] I. Watson and J. Gurd. A practical data flow computer. *Computer*, 15(2):51–57, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gajski:1982:SOD

- [56] D. D. Gajski, D. A. Padua, D. J. Kuck, and R. H. Kuhn. A second opinion on data flow machines and languages. *Computer*, 15(2):58–69, February 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Levy:1982:VMM

- [57] H. M. Levy and P. H. Lipman. Virtual memory management in the VAX/VMS operating system. *Computer*, 15(3):35–41, March 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hwang:1982:ULC

- [58] K. Hwang, W. J. Croft, G. H. Goble, B. W. Wah, F. A. Briggs, W. R. Simmons, and C. L. Coates. A Unix-Based local computer network with load balancing. *Computer*, 15(4):55–66, April 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kenville:1982:ODD

- [59] Richard F. Kenville. Optical disk data storage. *Computer*, 15(7):21–25, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Copeland:1982:WIM

- [60] George Copeland. What if mass storage were free? *Computer*, 15(7):27–35, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

OLear:1982:SCM

- [61] B. T. O’Lear and J. H. Choy. Software considerations in mass storage systems. *Computer*, 15(7):36–44, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lawrie:1982:EAF

- [62] D. H. Lawrie, J. M. Randal, and R. R. Barton. Experiments with automatic file migration. *Computer*, 15(7):45–55, July 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Shoch:1982:EEL

- [63] John F. Shoch, Y. K. Dalal, David D. Redell, and Ronald C. Crane. Evolution of the Ethernet local computer network. *Computer*, 15(8):10–27, August 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Boral:1982:ADF

- [64] H. Boral and D. J. DeWitt. Applying data flow techniques to data base machines. *Computer*, 15(8):57–63, August 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (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.

Patterson:1982:VR

- [65] D. A. Patterson and C. H. Sequin. A VLSI RISC. *Computer*, 15(9):8–21,

September 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Brayer:1982:TAD

- [66] K. Brayer and V. Laffleur. A testbed approach to the design of a computer communication network. *Computer*, 15(10):14–23, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

McDonald:1982:FDT

- [67] W. C. McDonald and R. W. Smith. A flexible distributed testbed for real-time applications. *Computer*, 15(10):25–39, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gehring:1982:CT

- [68] E. F. Gehring, A. K. Jones, and Z. Z. Segall. The Cm* testbed. *Computer*, 15(10):40–49, October 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hall:1982:MCS

- [69] Ernest L. Hall, James K. B. Tio, Charles A. McPherson, and Firooz A. Sadjadi. Measuring curved surfaces for robot vision. *Computer*, 15(12):42–54, December 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Arvind:1982:U

- [70] Arvind and Kim P. Gostelow. The U-Interpreter. *Computer*, 16(1):42–49, January 1982. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Fu:1983:ICA

- [71] K. Hwang and K. Fu. Integrated computer architectures for image processing and database management. *Computer*, 16(1):51–60, January 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Atkinson:1983:APP

- [72] M. P. Atkinson, P. J. Bailey, K. J. Chisholm, P. W. Cockshott, and R. Morrison. An approach to persistent programming. *Computer*, 16(4):360–365, April 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Benhamou:1983:MIG

- [73] Eric Benhamou and Judy Estrin. Multilevel internetworking gateways: Architecture and applications. *Computer*, 16(9):27–34, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hinden:1983:DII

- [74] R. Hinden, J. Haverty, and A. Sheltzer. The DARPA Internet: Interconnecting heterogeneous computer networks with gateways. *Computer*, 16(9):38–48, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). papers box.

Thornton:1983:HNL

- [75] James E. Thornton and Gary S. Christensen. Hyperchannel network links. *Computer*, 16(9):50–54, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Redell:1983:IEM

- [76] David D. Redell and James E. White. Interconnecting electronic mail systems. *Computer*, 16(9):55–63, September 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Brachman:1983:WII

- [77] Ronald J. Brachman. What IS-A is and isn't: An analysis of taxonomic links in semantic networks. *Computer*, 16(10):30–36, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Schubert:1983:DTP

- [78] Lenhart K. Schubert, Mary Angela Palaskaris, and Jay Taugher. Determining type, part, color, and time relationships. *Computer*, 16(10):53–60, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Special Issue on Knowledge Representation.

Brachman:1983:KAF

- [79] Ronald J. Brachman, Richard E. Fikes, and Hector J. Levesque. KRYPTON: A functional approach to knowledge representation. *Computer*, 16(10):67–73, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Special Issue on Knowledge Representation.

Davis:1983:RSB

- [80] Randall Davis and Howard Shrobe. Representing structure and behavior of digital hardware. *Computer*, 16(10):75–81, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Mylopoulos:1983:BKS

- [81] John Mylopoulos, Tetsutaro Shibahara, and John K. Tsotsos. Building knowledge-based systems: The PSN experience. *Computer*, 16(10):83–89, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Havens:1983:RKV

- [82] W. Havens and A. Mackworth. Representing knowledge of the visual world. *Computer*, 16(10):90–96, October 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Balzer:1983:STU

- [83] Robert Balzer, Thomas E. Cheatham, Jr., and Cordell Green. Software technology in the 1990s: Using a new paradigm. *Computer*, 16(11):39–45, November 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gajski:1983:GEI

- [84] D. Gajski and R. Kuhn. Guest Editors' introduction: New VLSI tools. *Computer*, 16(12):11–14, December 1983. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lee:1984:BPS

- [85] J. K. F. Lee and A. J. Smith. Branch prediction strategies and branch target buffer design. *Computer*, 17(1):6–22, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gligor:1984:IHD

- [86] V. D. Gligor and G. L. Luckenbaugh. Interconnecting heterogeneous database management systems. *Computer*, 17(1):33–43, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Boari:1984:MPT

- [87] Aurelio Boari, Stefano Crespi-Reghizzi, Alberto Dapra, Francesco Maderna, and Antonio Natali. Multiple-microprocessor programming techniques: MML, a new set of tools. *Computer*, 17(1):47–59, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Grinberg:1984:CVA

- [88] J. Grinberg, G. R. Nudd, and R. D. Etchells. A cellular VLSI architecture. *Computer*, 17(1):69–81, January 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Weide:1984:PCI

- [89] B. W. Weide, M. E. Brown, J. Ramanathan, and K. Schwan. Process control: Integration and design methodology support. *Computer*, 17(2):27–32, February 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Roussopoulos:1984:AMD

- [90] N. Roussopoulos and R. T. Yeh. An adaptable methodology for database design. *Computer*, 17(5):64–80, May 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Welch:1984:THP

- [91] Terry A. Welch. A technique for high-performance data compression. *Computer*, 17(6):8–19, June 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hsieh:1984:RSC

- [92] W. N. Hsieh and I. Gitman. Routing strategies in computer networks. *Computer*, 17(6):46–56, June 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

MacDougall:1984:IPP

- [93] Myron MacDougall. Instruction-level program and processor modeling. *Computer*, 17(7):14–24, July 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Snyder:1984:PPP

- [94] L. Snyder. Parallel programming and the Poker programming environment. *Computer*, 17(7):27–36, July 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Keller:1984:SPR

- [95] R. M. Keller and F. C. H. Lin. Simulated performance of a reduction-based multiprocessor. *Computer*, 17(7):70–82, July 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Sarrazin:1984:FSM

- [96] D. B. Sarrazin and M. Malek. Fault-tolerant semiconductor memories. *Computer*, 17(8):49–56, August 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Mittal:1984:PAK

- [97] S. Mittal, B. Chandrasekaran, and J. Sticklen. Patrec: A knowledge-directed database for a diagnostic expert system. *Computer*, 17(9):51–58, September 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

MacHover:1984:ICG

- [98] C. MacHover and W. Myers. Interactive computer graphics. *Computer*, 17(10):145–161, October 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Brown:1984:AOS

- [99] R. L. Brown and P. J. Denning. Advanced operating systems. *Computer*, 17(10):173–190, October 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Fu:1984:PRC

- [100] K. S. Fu and A. Rosenfeld. Pattern recognition and computer vision. *Computer*, 17(10):274–282, October 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Glinert:1984:PIG

- [101] E. P. Glinert and S. L. Tanimoto. PICT: An interactive graphical programming environment. *Computer*, 17(11):7–25, November 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Shemer:1984:GDC

- [102] J. Shemer and P. M. Neches. The genesis of a database computer. *Computer*, 17(11):42–??, November 1984. CODEN

CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Laurent:1984:GAG

- [103] D. Laurent and S. Motet. GEOMATIC: A 3-D graphic relief simulation system. *Computer*, 17(12):25–30, December 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Yoshiura:1984:TCM

- [104] H. Yoshiura, K. Fujimura, and T. L. Kunii. Top-down construction of 3-D mechanical object shapes from engineering drawings. *Computer*, 17(12):32–40, December 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Woo:1984:ISM

- [105] T. C. Woo. Interfacing solid modeling to CAD and CAM: Data structures and algorithms for decomposing a solid. *Computer*, 17(12):44–49, December 1984. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chu:1985:CKT

- [106] Y. Chu. Chinese/Kanji text and data processing. *Computer*, 18(1):10–66, January 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Maruyama:1985:HV

- [107] F. Maruyama and M. Fujita. Hardware verification. *Computer*, 18(2):22–32, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). U. S. Copyright Clearance Center Code: 0018-9162/85/0200-0022\$01.00.

Suzuki:1985:CPE

- [108] N. Suzuki. Concurrent PROLOG as an efficient VLSI design language. *Computer*, 18(2):33–40, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). U. S. Copyright Clearance Center Code: 0018-9162/85/0200-0033\$01.00.

Lieberherr:1985:ZAL

- [109] K. J. Lieberherr and S. M. German. Zeus: A language for expressing algorithms in hardware. *Computer*, 18(2):55–65, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Zeus.

Piloty:1985:CPC

- [110] R. Piloty and D. Borriane. The CONLAN project: concepts, implementations and applications. *Computer*, 18(2):81–92, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Shahdad:1985:VHD

- [111] M. Shahdad, R. Lipsett, F. E. Marschner, K. Sheehan, H. Cohen, R. Waxman, and D. Ackley. VHSIC hardware description language. *Computer*, 18(2):94–103, February 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). VHDL.

Berman:1985:CRT

- [112] S. Berman, P. Parikh, and C. S. G. Lee. Computer recognition of two overlapping parts using a single camera. *Computer*, 18(3):70–80, March 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1985:NCA

- [113] Anonymous. New configuration added, price cut, for processor. *Computer*, 18(5):122-??, May 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gajski:1985:EIM

- [114] Daniel D. Gajski and Jih-Kwon Peir. Essential issues in multiprocessor systems. *Computer*, 18(6):9-27, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Schneck:1985:PPP

- [115] P. B. Schneck, D. Austin, S. L. Squires, J. Lehmann, D. Mizell, and K. Wallgren. Parallel processor programs in the Federal Government. *Computer*, 18(6):43-56, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Murakami:1985:RPM

- [116] K. Murakami, T. Kakuta, R. Onai, and N. Ito. Research on parallel machine architecture for fifth-generation computer systems. *Computer*, 18(6):76-92, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Month June.

Wah:1985:MCS

- [117] Benjamin W. Wah, G. J. Li, and C. F. Yu. Multiprocessing of combinatorial search problems. *Computer*, 18(6):93-108, June 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Miller:1985:TRM

- [118] S. W. Miller and M. W. Collins. Toward a reference model of mass storage systems. *Computer*, 18(7):9-22, July 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ammon:1985:HLJ

- [119] G. Ammon, J. Calabria, and D. Thomas. A high-speed, large-capacity, jukebox optical disk system. *Computer*, 18(7):36-46, July 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Raeder:1985:SCG

- [120] G. Raeder. A survey of current graphical programming techniques. *Computer*, 18(8):11-25, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Brown:1985:PVG

- [121] G. P. Brown, R. T. Carling, C. F. Herot, D. A. Kramlich, and P. Souza. Program visualization: Graphical support for software development. *Computer*, 18(8):27-35, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

London:1985:APU

- [122] R. L. London and R. A. Duisberg. Animating programs using Smalltalk. *Computer*, 18(8):61-71, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Melamed:1985:VSP

- [123] B. Melamed and R. J. T. Morris. Visual simulation: The performance analysis workstation. *Computer*, 18(8):87-

94, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Colwell:1985:ISB

- [124] Robert P. Colwell, Charles Y. Hitchcock, III, E. Douglas Jensen, H. M. Brinkley Sprunt, and Charles P. Kollar. Instruction sets and beyond: Computers, complexity, and controversy. *Computer*, 18(9):8–19, September 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Coutaz:1985:AUI

- [125] Joëlle Coutaz. Abstractions for user interface design. *Computer*, 18(9):21–34, September 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hartzband:1985:EKR

- [126] D. J. Hartzband and F. J. Maryanski. Enhancing knowledge representation in engineering databases. *Computer*, 18(9):39–??, September 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Yankelovich:1985:RWE

- [127] Nicole Yankelovich, Norman Meyrowitz, and Andries van Dam. Reading and writing the electronic book. *Computer*, 18(10):15–30, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Sarin:1985:CRC

- [128] S. Sarin and I. Greif. Computer-based real-time conferencing systems. *Computer*, 18(10):33–45, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Horak:1985:ODA

- [129] Wolfgang Horak. Office Document Architecture and Office Document Interchange formats: Current status of international standardization. *Computer*, 18(10):50–60, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bono:1985:SGS

- [130] Peter R. Bono. A survey of graphics standards and their role in information interchange. *Computer*, 18(10):63–75, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Reynolds:1985:DEM

- [131] J. K. Reynolds, J. B. Postel, A. R. Katz, G. G. Finn, and A. L. DeSchon. The DARPA experimental multimedia mail system. *Computer*, 18(10):82–91, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Sakata:1985:DIM

- [132] S. Sakata and T. Ueda. A distributed interoffice mail system. *Computer*, 18(10):106–116, October 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Carlson:1985:APD

- [133] W. W. Carlson and K. Hwang. Algorithmic performance of dataflow multiprocessors. *Computer*, 18(12):30–40, December 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Yalamanchili:1985:RSP

- [134] S. Yalamanchili and J. K. Aggarwal. Reconfiguration strategies for parallel architectures. *Computer*, 18(12):44–61, December 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Fisher:1985:SLV

- [135] A. L. Fisher and H. T. Kung. Synchronizing large VLSI processor arrays. *Computer*, C-34(8):734–740, August 1985. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Navathe:1986:IUV

- [136] S. Navathe, R. Elmasri, and J. Larson. Integrating user views in database design. *Computer*, 19(1):50–62, January 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Goguen:1986:RIS

- [137] Joseph Goguen. Reusing and interconnecting software components. *Computer*, 19(2):16–28, February 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Reprinted in *Tutorial: Software Reusability*, Peter Freeman, editor, IEEE Computer Society, 1987, pages 251–263, and in *Domain Analysis and Software Systems Modelling*, Ruben Prieto-Diaz and Guillermo Arango, editors, IEEE Computer Society, 1991, pages 125–137.

Agrawal:1986:EPM

- [138] D. P. Agrawal, V. K. Janakiram, and G. C. Pathak. Evaluating the performance of multicomputer configurations.

Computer, 19(5):23–37, May 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Fisher:1986:IDD

- [139] D. A. Fisher and R. M. Weatherly. Issues in the design of a distributed operating system for Ada. *Computer*, 19(5):38–47, May 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Larson:1986:VAB

- [140] James A. Larson. A visual approach to browsing in a database environment. *Computer*, 19(6):62–71, June 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bruno:1986:RSS

- [141] G. Bruno, A. Elia, and P. Laface. A rule-based system to schedule production. *Computer*, 19(7):32–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Stroebel:1986:CPE

- [142] G. J. Stroebel, R. D. Baxter, and M. J. Denney. A capacity planning expert system for IBM System/38. *Computer*, 19(7):42–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Talukdar:1986:TPS

- [143] S. N. Talukdar, E. Cardozo, and L. V. Leao. Toast: The power system operator's assistant. *Computer*, 19(7):53–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Brown:1986:KCM

- [144] David C. Brown and B. Chandrasekaran. Knowledge and control for a mechanical design expert system. *Computer*, 19(7):92–100, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Mittal:1986:PES

- [145] S. Mittal, C. L. Dym, and M. Morjaria. Pride: An expert system for the design of paper handling systems. *Computer*, 19(7):102–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chien:1986:ESS

- [146] Y.-T. Chien and J. Liebowitz. Expert systems in the SDI environment. *Computer*, 19(7):115–??, July 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Mundie:1986:PPA

- [147] D. A. Mundie and D. A. Fisher. Parallel processing in Ada. *Computer*, 19(8):20–25, August 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ahuja:1986:DPL

- [148] Sudhir Ahuja, Nicholas Carriero, and David Gelernter. Domesticating parallelism: Linda and friends. *Computer*, 19(8):26–34, August 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Halstead:1986:PSC

- [149] R. H. Halstead. Parallel symbolic computing. *Computer*, 19(8):35–43, August

1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hudak:1986:PP

- [150] P. R. Hudak. Para-functional programming. *Computer*, 19(8):60–70, August 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Snodgrass:1986:TD

- [151] R. T. Snodgrass and I. Ahn. Temporal databases. *Computer*, 19(9):35–42, September 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Myers:1986:CEI

- [152] B. A. Myers. A complete and efficient implementation of covered windows. *Computer*, 19(9):57–67, September 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Roussopoulos:1986:PTD

- [153] N. Roussopoulos and H. Kang. Principles and techniques in the design of ADMS. *Computer*, 19(12):19–25, December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Mark:1986:MM

- [154] L. Mark and N. Roussopoulos. Metadata management. *Computer*, 19(12):26–36, December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Wiederhold:1986:VOD

- [155] G. Wiederhold. Views, objects, and databases. *Computer*, 19(12):37–44,

December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Christodoulakis:1986:DPC

- [156] S. Christodoulakis and C. Faloutsos. Design and performance considerations for an optical disk-based, multimedia object server. *Computer*, 19(12):45–56, December 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Moldovan:1986:PMA

- [157] D. I. Moldovan and J. A. B. Fortes. Partitioning and mapping algorithms into fixed-size systolic arrays. *Computer*, C-35(1):1–12, January 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hwang:1987:CAA

- [158] K. Hwang, J. Ghosh, and R. Chowkanyun. Computer architectures for artificial intelligence processing. *Computer*, 20(1):19–27, January 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ungar:1987:WPS

- [159] D. Ungar and D. Patterson. What price Smalltalk? *Computer*, 20(1):67–74, January 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Fahlman:1987:CAA

- [160] S. E. Fahlman and Geoffrey E. Hinton. Connectionist architectures for artificial intelligence. *Computer*, 20(1):100–109, January 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ketabchi:1987:MMC

- [161] M. A. Ketabchi and V. Berzins. Modeling and managing CAD databases. *Computer*, 20(2):93–102, February 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Berra:1987:CAS

- [162] P. B. Berra, Soon M. Chung, and Nabil I. Hachem. Computer architecture for a surrogate file to a very large data/knowledge base. *Computer*, 20(3):25–32, March 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Pleszkun:1987:ALM

- [163] A. R. Pleszkun and M. J. Thazhuthaveetil. The architecture of LISP machines. *Computer*, 20(3):35–44, March 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Dongarra:1986:HDM

- [164] J. Dongarra. How do the ‘minisupers’ stack up? *Computer*, 19(3):93, 100, March 1986. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). URL <http://www.netlib.org/utk/people/JackDongarra/PAPERS/How-Do-the-Minisupers-Stack-Up.pdf>.

Brooks:1987:NSB

- [165] Frederick P. Brooks, Jr. No silver bullet: essence and accidents of software engineering. *Computer*, 20(4):10–19, April 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gevarter:1987:NEC

- [166] W. B. Gevarter. The nature and evaluation of commercial expert system building tools. *Computer*, 20(5):24–41, May 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Karp:1987:PP

- [167] Alan H. Karp. Programming for parallelism. *Computer*, 20(5):43–57, May 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Milutinovic:1987:ACS

- [168] V. Milutinovic, D. Fura, W. Helbig, and J. Linn. Architecture/compiler synergism in GaAs computer systems. *Computer*, 20(5):72–93, May 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bhuyan:1987:GEI

- [169] L. N. Bhuyan. Guest Editor's introduction: Interconnection networks for parallel and distributed processing. *Computer*, 20(6):9–13, June 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kumar:1987:ASM

- [170] Vijay P. Kumar and Sudhakar M. Reddy. Augmented shuffle-exchange multistage interconnection networks. *Computer*, 20(6):30–40, June 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Varma:1987:OCN

- [171] A. Varma, A. A. Sawchuk, C. S. Raghavendra, and B. K. Jenkins. Optical crossbar networks. *Computer*, 20(6):50–60, June 1987. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic).

Fortes:1987:SAC

- [172] J. A. B. Fortes and B. W. Wah. Systolic arrays — from concept to implementation. *Computer*, 20(7):12–17, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kung:1987:WAP

- [173] S. Y. Kung, S. N. Lo, and J. N. Hwang. Wavefront array processors — concept to implementation. *Computer*, 20(7):18–34, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Foulser:1987:SMA

- [174] D. E. Foulser and R. Schreiber. The Saxpy Matrix-1: A general-purpose systolic computer. *Computer*, 20(7):35–44, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Drake:1987:SAS

- [175] B. L. Drake, F. T. Luk, J. M. Speiser, and J. J. Symanski. SLAPP: A systolic linear algebra parallel processor. *Computer*, 20(7):45–50, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

McCanny:1987:SSA

- [176] J. V. McCanny and J. G. McWhirter. Some systolic array developments in the united kingdom. *Computer*, 20(7):51–64, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Abraham:1987:FTT

- [177] J. A. Abraham, P. Banerjee, C. Chen, W. K. Fuchs, S. Y. Kuo, and A. L. N. Reddy. Fault tolerance techniques for systolic arrays. *Computer*, 20(7):65–76, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Navarro:1987:PES

- [178] J. J. Navarro, J. M. Llaberia, and M. Valero. Partitioning: An essential step in mapping algorithms into systolic array processors. *Computer*, 20(7):77–90, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hein:1987:DGS

- [179] C. E. Hein, R. M. Zieger, and J. A. Urbano. The design of a GaAs systolic array for an adaptive null steering beamforming controller. *Computer*, 20(7):92–93, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Nash:1987:SCS

- [180] J. G. Nash, K. W. Przytula, and S. Hansen. The systolic/cellular system for signal processing. *Computer*, 20(7):96–97, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lin:1987:ISA

- [181] W. T. Lin, C. Y. Chin, and C. Y. Ho. Integrating systolic arrays into a super-system. *Computer*, 20(7):100–101, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Koren:1987:CID

- [182] Israel Koren. The concept and implementation of data-driven processor arrays. *Computer*, 20(7):102–103, July 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bhanu:1987:COR

- [183] Bir Bhanu and Chih-Cheng Ho. CAD-based 3D object representation for robot vision. *Computer*, 20(8):19–35, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Roach:1987:CSB

- [184] John W. Roach, Praveen K. Paripati, and Jeffrey S. Wright. A CAD system based on spherical dual representations. *Computer*, 20(8):37–44, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Shneier:1987:PBV

- [185] Michael O. Shneier, Ronald Lumia, and Martin Herman. Prediction-based vision for robot control. *Computer*, 20(8):46–55, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Horaud:1987:MSP

- [186] Radu Horaud and Thomas Skordas. Model-based strategy planning for recognizing partially occluded parts. *Computer*, 20(8):58–65, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gunnarsson:1987:CML

- [187] Kristjan T. Gunnarsson and Friedrich B. Prinz. CAD model-based localization of parts in manufacturing. *Computer*, 20

(8):66–74, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Stevenson:1987:MPC

- [188] Charles N. Stevenson. Model-based programming and control of robot manipulators. *Computer*, 20(8):76–84, August 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:FC

- [189] Anonymous. [front cover]. *Computer*, 20(9):c1–c2, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:TC

- [190] Anonymous. Table of contents. *Computer*, 20(9):2–3, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Russo:1987:CSP

- [191] R. Russo and M. Smith. Computer Society President’s message. *Computer*, 20(9):6–7, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Shriver:1987:ECM

- [192] B. D. Shriver. Editor-in-Chief’s message. *Computer*, 20(9):10, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:FJC

- [193] Anonymous. The 1987 Fall Joint Computer Conference Infomart — Dallas, Texas, October 25–29, 1987. *Computer*, 20(9):12–15, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Conklin:1987:HIS

- [194] Jeff Conklin. Hypertext: An introduction and survey. *Computer*, 20(9):17–41, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Boehm:1987:ISP

- [195] Boehm. Improving software productivity. *Computer*, 20(9):43–57, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gimarc:1987:SRP

- [196] C. E. Gimarc and V. M. Milutinovic. A survey of RISC processors and computers of the mid-1980s. *Computer*, 20(9):59–69, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Flynn:1987:NCM

- [197] M. J. Flynn, C. L. Mitchell, and J. M. Mulder. And now a case for more complex instruction sets. *Computer*, 20(9):71–83, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hoare:1987:OSF

- [198] C. A. R. Hoare. An overview of some formal methods for program design. *Computer*, 20(9):85–91, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:S

- [199] Anonymous. Standards. *Computer*, 20(9):94–97, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:U

- [200] Anonymous. Update. *Computer*, 20(9): 98–99, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:CSN

- [201] Anonymous. Computer Society news. *Computer*, 20(9):99–102, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:NPR

- [202] Anonymous. New product reviews. *Computer*, 20(9):103–106, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:NP

- [203] Anonymous. New products. *Computer*, 20(9):107–113, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:IA

- [204] Anonymous. IC announcements. *Computer*, 20(9):114, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:MA

- [205] Anonymous. Microsystem announcements. *Computer*, 20(9):115, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:IIC

- [206] Anonymous. IEEE International Conference on Computer-Aided Design. *Computer*, 20(9):116–117, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:Ca

- [207] Anonymous. Conferences. *Computer*, 20(9):118–119, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:Cb

- [208] Anonymous. Calendar. *Computer*, 20(9):119–120, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:CP

- [209] Anonymous. Call for papers. *Computer*, 20(9):121–122, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:CO

- [210] Anonymous. Career opportunities. *Computer*, 20(9):122–123, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:BR

- [211] Anonymous. Book reviews. *Computer*, 20(9):124–126, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:NL

- [212] Anonymous. New literature. *Computer*, 20(9):127, September 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1987:CSM

- [213] Anonymous. The Computer Society: a member society of the Institute of Electrical and Electronics Engineers, Inc. *Computer*, 20(9):129, September 1987.

CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Stone:1987:PQL

- [214] Harold S. Stone. Parallel querying of large databases: A case study. *Computer*, 20(10):11–21, October 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Berra:1987:OTD

- [215] P. B. Berra and N. B. Troullinos. Optical techniques and data/knowledge base machines. *Computer*, 20(10):59–70, October 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Henderson:1987:IDP

- [216] P. B. Henderson and D. Notkin. Integrated design and programming environments. *Computer*, 20(11):12–16, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Dart:1987:SDE

- [217] S. A. Dart, R. J. Ellison, P. H. Feiler, and N. A. Habermann. Software development environments. *Computer*, 20(11):18–28, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Reps:1987:LPP

- [218] T. Reps and T. Teitelbaum. Language processing in program editors. *Computer*, 20(11):29–40, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Goguen:1987:FPE

- [219] Joseph Goguen and Mark Moriconi. Formalization in programming environments. *Computer*, 20(11):55–64, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Carle:1987:PES

- [220] Alan Carle, Keith D. Cooper, Robert T. Hood, Ken Kennedy, Linda Torczon, and Scott K. Warren. A practical environment for scientific programming. *Computer*, 20(11):75–89, November 1987. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Denning:1988:CDP

- [221] P. J. Denning, D. E. Comer, D. Gries, M. C. Mulder, A. Tucker, A. J. Turner, and P. R. Young. Computing as a discipline: Preliminary report of the ACM Task Force on the Core of Computer Science. *Computer*, 20(1):41, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See also final report [288].

Chen:1988:MRD

- [222] P. Chen and M. A. Harrison. Multiple representation document development. *Computer*, 21(1):15–31, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Johnson:1988:SDE

- [223] J. Johnson and R. J. Beach. Styles in document editing systems. *Computer*, 21(1):32–47, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Schlichter:1988:FAP

- [224] J. H. Schlichter and L. J. Miller. FolioPub: A publication management system. *Computer*, 21(1):61–69, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Marchionini:1988:FFV

- [225] G. Marchionini and B. Shneiderman. Finding facts vs. browsing knowledge in hypertext systems. *Computer*, 21(1):70–80, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Yankelovich:1988:ICC

- [226] Nicole Yankelovich, Bernard Hann, Norman Meyrowitz, and S. M. Drucker. Intermedia: The concept and the construction of a seamless information environment. *Computer*, 21(1):81–97, January 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Dubois:1988:SCE

- [227] Michel Dubois, Christoph Scheurich, and Fayé A. Briggs. Synchronization, coherence, and event ordering in multiprocessors. *Computer*, 21(2):9–21, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ousterhout:1988:SNO

- [228] John K. Ousterhout, A. R. Chersonon, Fred Douglass, Michael N. Nelson, and Brent B. Welch. The Sprite network operating system. *Computer*, 21(2):23–36, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bernstein:1988:SAF

- [229] P. A. Bernstein. Sequoia: A fault-tolerant tightly coupled multiprocessor for transaction processing. *Computer*, 21(2):37–45, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lang:1988:OPA

- [230] Gordon R. Lang, Moez Dharssi, Fred M. Longstaff, Philip S. Longstaff, Peter A. S. Metford, and Malcolm T. Rimmer. An optimum parallel architecture for high-speed real-time digital signal processing. *Computer*, 21(2):47–57, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Moffett:1988:SAC

- [231] Jonathan D. Moffett and Morris S. Slocman. The source of authority for commercial access control. *Computer*, 21(2):59–69, February 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Widrow:1988:NNA

- [232] B. Widrow and R. Winter. Neural nets for adaptive filtering and adaptive pattern recognition. *Computer*, 21(3):25–39, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Graf:1988:VIN

- [233] Hans P. Graf, Lawrence D. Jackel, and Wayne E. Hubbard. VLSI implementation of a neural network model. *Computer*, 21(3):41–49, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hutchinson:1988:CMU

- [234] James Hutchinson, Christof Koch, Jin Luo, and Carver Mead. Computing motion using analog and binary resistive networks. *Computer*, 21(3):52–63, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Fukushima:1988:NNF

- [235] Kunihiko Fukushima. Neural network for visual pattern recognition. *Computer*, 21(3):65–75, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Carpenter:1988:AAP

- [236] Gail A. Carpenter and Stephen Grossberg. The ART of adaptive pattern recognition by a self-organizing neural network. *Computer*, 21(3):77–88, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Feldmann:1988:CSN

- [237] Jerome A. Feldmann, Mark A. Fanty, and Nigel H. Goddard. Computing with structured neural networks. *Computer*, 21(3):91–103, March 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Butler:1988:MLG

- [238] J. T. Butler. Multiple-valued logic: Guest Editor's introduction and bibliography. *Computer*, 21(4):13–??, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Smith:1988:MLA

- [239] K. C. Smith. Multiple-valued logic: A tutorial and appreciation. *Computer*,

21(4):17–27, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Etiemble:1988:CBM

- [240] D. Etiemble and M. Israel. Comparison of binary and multivalued ICs according to VLSI criteria. *Computer*, 21(4):28–42, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kameyama:1988:MCM

- [241] M. Kameyama, S. Kawahito, and T. Higuchi. A multiplier chip with multiple-valued bidirectional current-mode logic circuits. *Computer*, 21(4):43–57, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Butler:1988:MCC

- [242] J. T. Butler and H. G. Kerkhoff. Multiple-valued CCD circuits. *Computer*, 21(4):58–70, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Sasao:1988:MLO

- [243] T. Sasao. Multiple-valued logic and optimization of programmable logic arrays. *Computer*, 21(4):71–82, April 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Nichols:1988:MMS

- [244] Kathleen M. Nichols and John T. Edmark. Modeling multicomputer systems with PARET. *Computer*, 21(5):39–48, May 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bershad:1988:RCF

- [245] Brian N. Bershad and Henry M. Levy. A remote computation facility for a heterogeneous environment. *Computer*, 21(5):50–60, May 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Boehm:1988:SMS

- [246] Barry W. Boehm. A spiral model of software development and enhancement. *Computer*, 21(5):61–72, May 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gait:1988:OFC

- [247] Jason Gait. The optical file cabinet: A random-access file system for write-once optical disks. *Computer*, 21(6):11–22, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Mills:1988:SRV

- [248] H. D. Mills. Stepwise refinement and verification in box-structured systems. *Computer*, 21(6):23–37, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Rayfield:1988:SAS

- [249] J. T. Rayfield and H. F. Silverman. System and application software for the Armstrong multiprocessor. *Computer*, 21(6):38–52, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Potter:1988:TSH

- [250] Walter D. Potter and Robert P. Trueblood. Traditional, semantic, and hypersemantic approaches to data modeling.

Computer, 21(6):53–63, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Liu:1988:PVF

- [251] Bowen Liu and Nelson Strother. Programming in VS Fortran on the IBM 3090 for maximum vector performance. *Computer*, 21(6):65–77, June 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Camurati:1988:FVH

- [252] P. Camurati and P. Prinetto. Formal verification of hardware correctness: Introduction and survey of current research. *Computer*, 21(7):8–20, July 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hooton:1988:EPD

- [253] A. R. Hooton, U. Agueero, and S. Dasgupta. An exercise in plausibility-driven design. *Computer*, 21(7):21–33, July 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Steenkiste:1988:LRP

- [254] P. Steenkiste and J. Hennessy. Lisp on a reduced-introduction-set processor: Characterization and optimization. *Computer*, 21(7):34–46, July 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Athas:1988:MMP

- [255] William C. Athas and Charles L. Seitz. Multicomputers: Message-passing concurrent computers. *Computer*, 21(8):9–24, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Tucker:1988: AAC

- [256] Lewis W. Tucker and George G. Robertson. Architecture and applications of the Connection Machine. *Computer*, 21(8):26–38, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Rich:1988: APM

- [257] Charles Rich and Richard C. Waters. Automatic programming: Myths and prospects. *Computer*, 21(8):40–51, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gries:1988: TS

- [258] David Gries and Dorothy Marsh. The 1986–1987 Taulbee Survey. *Computer*, 21(8):53–63, August 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Diede:1988: TGS

- [259] Tom Diede, Carl F. Hagenmaier, Glen S. Miranker, Jonathan J. Rubinstein, and William S. Worley, Jr. The Titan Graphics Supercomputer architecture. *Computer*, 21(9):13–28, 30, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Wolcott:1988: HCS

- [260] Peter Wolcott and Seymour E. Goodman. High-speed computers of the Soviet Union. *Computer*, 21(9):32–41, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Leung:1988: FCE

- [261] K. S. Leung and W. Lam. Fuzzy concepts in expert systems. *Computer*, 21(9):43–56, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Myers:1988: NCS

- [262] W. Myers and M. Potes. National Conference on Strategic Management of R&D. *Computer*, 21(9):58–67, September 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Stankovic:1988: MAR

- [263] J. A. Stankovic. Misconceptions about real-time computing — A serious problem for next-generation systems. *Computer*, 21(10):10–19, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). Comment 1 by schlenk, Mon Dec 12 13:13:04 1988 An interesting outlook on real-time systems that are integrated into a programming environment is given. The author shows why ADA tasks are not sufficient (a high priority task has to wait for a lower priority task) and suggests an integrated approach: Time management on the language level, schedulability check and support for distributed programs.

Doran:1988: AMA

- [264] R. W. Doran. Amdahl multiple-domain architecture. *Computer*, 21(10):20–28, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Koren:1988: DVA

- [265] Israel Koren, Bilha Mendelson, Irit Peled, and Gabriel M. Silberman. A

data-driven VLSI array for arbitrary algorithms. *Computer*, 21(10):30–43, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lewis:1988:HDS

- [266] Ted G. Lewis and Curtis R. Cook. Hashing for dynamic and static internal tables. *Computer*, 21(10):45–56, October 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). The authors survey the classical hashing function approach to information retrieval and show how general hashing techniques exchange speed for memory. It is a tutorial paper that covers, among other topics, dynamic and static hash tables, perfect hashing, and minimal perfect hashing.

Lie:1988:AML

- [267] Y.-C. D. Lie. Appendix to ‘Multiple-valued logic: a tutorial and appreciation’ (April 17–27, 1988). *Computer*, 21(11):9, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Rich:1988:PAR

- [268] C. Rich and R. C. Waters. The Programmer’s Apprentice: a research overview. *Computer*, 21(11):10–25, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Stenstrom:1988:RCS

- [269] P. Stenström. Reducing contention in shared-memory multiprocessors. *Computer*, 21(11):26–37, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Britcher:1988:UII

- [270] R. N. Britcher. Using inspections to investigate program correctness. *Computer*, 21(11):38–44, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Skillicorn:1988:TCA

- [271] David B. Skillicorn. A taxonomy for computer architectures. *Computer*, 21(11):46–57, November 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Webster:1988:MDI

- [272] D. E. Webster. Mapping the design information representation terrain. *Computer*, 21(12):8–23, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hill:1988:CDC

- [273] M. D. Hill. A case for direct-mapped caches. *Computer*, 21(12):25–40, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Schaffner:1988:SSD

- [274] Stuart C. Schaffner and Martha Borkan. Segue: Support for distributed graphical interfaces. *Computer*, 21(12):42–55, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Detlefs:1988:ISR

- [275] David L. Detlefs, Maurice P. Herlihy, and Jeannette M. Wing. Inheritance of synchronization and recovery properties in Avalon/C++. *Computer*, 21(12):57–69, December 1988. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1988:SS

- [276] Anonymous. Software for supercomputers. *Computer*, 21(12):70–74, December 1988. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Rau:1989:CDS

- [277] B. Ramakrishna Rau, D. W. L. Yen, Wei Yen, and R. A. Towle. The Cydra 5 departmental supercomputer: design philosophies, decisions, and trade-offs. *Computer*, 22(1):12–35, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Jones:1989:EDC

- [278] T. Jones. Engineering design of the Convex C2. *Computer*, 22(1):36–44, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

August:1989:CXB

- [279] M. C. August, G. M. Brost, C. C. Hsiung, and A. J. Schiffleger. Cray X-MP: The birth of a supercomputer. *Computer*, 22(1):45–52, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cragon:1989:TAS

- [280] H. G. Cragon and W. J. Watson. The TI Advanced Scientific Computer. *Computer*, 22(1):55–64, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Maytal:1989:DCG

- [281] B. Maytal, S. Jacobovici, D. B. Alpert, D. Biran, J. Levy, and S. Y. Tov. Design considerations for a general-purpose

microprocessor. *Computer*, 22(1):66–76, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lee:1989:PA

- [282] R. B. Lee. Precision architecture. *Computer*, 22(1):78–91, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Myers:1989:SPS

- [283] W. Myers. Software pivotal to strategic defense. *Computer*, 22(1):92–97, January 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Linton:1989:CUI

- [284] Mark A. Linton, John M. Vissides, and Paul R. Calder. Composing user interfaces with InterViews. *Computer*, 22(2):8–22, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). From *Computing Reviews*: “InterViews objects are combined through a model similar to the boxes and glues in Knuth’s \TeX , which allows interface objects to be combined with little concern for undesired interactions.”

Bhuyan:1989:PMI

- [285] L. N. Bhuyan, Qing Yang, and D. P. Agrawal. Performance of multiprocessor interconnection networks. *Computer*, 22(2):25–37, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Richardson:1989:COA

- [286] Stephen Richardson and Mahadevan Ganapathi. Code optimization across

procedures. *Computer*, 22(2):42–50, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ganapathi:1989:IAC

- [287] M. Ganapathi and G. O. Mendal. Issues in Ada compiler technology. *Computer*, 22(2):52–60, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Denning:1989:CD

- [288] P. J. Denning, D. E. Comer, D. Gries, M. C. Mulder, A. Tucker, A. J. Turner, and P. R. Young. Computing as a discipline. *Computer*, 22(2):63–70, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). See also preliminary report [221].

Gries:1989:SRD

- [289] D. Gries, T. Walker, and P. R. Young. 1988 Snowbird report: a discipline matures (computer science education). *Computer*, 22(2):72–75, February 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Wilfong:1989:RA

- [290] G. T. Wilfong. Robotics and automation. *Computer*, 22(3):6–8, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Sharir:1989:AMP

- [291] M. Sharir. Algorithmic motion planning in robotics. *Computer*, 22(3):9–19, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lozano-Perez:1989:TPP

- [292] T. Lozano-Perez, J. L. Jones, E. Mazer, and P. A. O’Donnell. Task-level planning of pick-and-place robot motions. *Computer*, 22(3):21–29, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hoffmann:1989:PAR

- [293] C. M. Hoffmann. The problems of accuracy and robustness in geometric computation. *Computer*, 22(3):31–39, 41, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cox:1989:EHR

- [294] I. J. Cox and N. H. Gehani. Exception handling in robotics. *Computer*, 22(3):43–49, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Allen:1989:CRR

- [295] P. Allen, P. Michelman, and K. Roberts. Current research in robotics and automation — an intelligent grasping system. *Computer*, 22(3):50–52, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Eicker:1989:CRR

- [296] P. J. Eicker and D. R. Strip. Current research in robotics and automation — automated planning and programming for robotic batch mechanical assembly. *Computer*, 22(3):53–54, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hopcroft:1989:CRR

- [297] J. E. Hopcroft. Current research in robotics and automation — electronic prototyping. *Computer*, 22(3): 55–57, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bekey:1989:CRR

- [298] G. A. Bekey. Current research in robotics and automation-robotics research at USC. *Computer*, 22(3):58–60, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Keefe:1989:SQS

- [299] T. F. Keefe, M. B. Thuraisingham, and W. T. Tsai. Secure query-processing strategies. *Computer*, 22(3): 63–70, March 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bhattacharya:1989:HTG

- [300] Debashis Bhattacharya, Brian T. Murray, and John P. Hayes. High-level test generation for VLSI. *Computer*, 22(4): 16–24, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Renous:1989:WWT

- [301] R. Renous, G. M. Silberman, and I. Spillinger. Whistle: A workbench for test development of library-based designs. *Computer*, 22(4):27–41, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cheng:1989:GAT

- [302] W.-T. Cheng and T. J. Chakraborty. Gentest: An automatic test-generation system for sequential circuits. *Computer*, 22(4):43–49, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Heap:1989:GSC

- [303] M. A. Heap and W. A. Rogers. Generating single-stuck-fault coverage from a collapsed-fault set. *Computer*, 22(4): 51–57, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hallenbeck:1989:TEA

- [304] J. J. Hallenbeck, J. R. Cybrynski, N. Kanopoulos, T. Markas, and N. Vasanthavada. The Test Engineer's Assistant: A support environment for hardware design for testability. *Computer*, 22(4):59–68, April 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Tanik:1989:RPS

- [305] M. M. Tanik and R. T. Yeh. Rapid prototyping in software development. *Computer*, 22(5):9–12, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Luqi:1989:SET

- [306] Luqi. Software evolution through rapid prototyping. *Computer*, 22(5): 13–25, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gupta:1989:OVC

- [307] R. Gupta, W. H. Cheng, R. Gupta, I. Hardonag, and M. A. Breuer. An object-oriented VLSI CAD framework. *Computer*, 22(5):28–37, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Jordan:1989:SSC

- [308] P. W. Jordan, K. S. Keller, R. W. Tucker, and D. Vogel. Software storming: Combining rapid prototyping and knowledge engineering. *Computer*, 22(5):39–48, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lewis:1989:PSU

- [309] T. G. Lewis, F. Handloser, III, S. Bose, and S. Yang. Prototypes from Standard User Interface Management Systems. *Computer*, 22(5):51–60, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Duke:1989:RPF

- [310] E. L. Duke, R. W. Brumbaugh, and J. D. Disbrow. A rapid prototyping facility for flight research in advanced systems concepts. *Computer*, 22(5):61–66, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cieslak:1989:PNP

- [311] R. Cieslak, A. Fawaz, S. Sachs, P. Varaiya, J. Walrand, and A. Li. The programmable network prototyping system. *Computer*, 22(5):67–76, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

McKeeman:1989:GTA

- [312] W. M. McKeeman. Graduation talk at Wang Institute. *Computer*, 22(5):78–80, May 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Iyengar:1989:AIM

- [313] S. S. Iyengar and R. L. Kashyap. Autonomous intelligent machines. *Computer*, 22(6):14–17, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bares:1989:AAR

- [314] John Bares, Martial Hebert, Takeo Kanade, Eric Krotkov, Tom Mitchell, Reid Simmons, and William Whittaker. Ambler — an autonomous rover for planetary exploration. *Computer*, 22(6):18–26, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Weisbin:1989:AMR

- [315] C. R. Weisbin, G. de Saussure, J. R. Einstein, F. G. Pin, and E. Heer. Autonomous mobile robot navigation and learning. *Computer*, 22(6):29–35, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Rao:1989:AFL

- [316] N. S. V. Rao. Algorithmic framework for learned robot navigation in unknown terrains. *Computer*, 22(6):37–43, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Elfes:1989:UOG

- [317] A. Elfes. Using occupancy grids for mobile robot perception and navigation.

Computer, 22(6):46–57, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bihari:1989:CAS

- [318] T. E. Bihari, T. M. Walliser, and M. R. Patterson. Controlling the adaptive suspension vehicle. *Computer*, 22(6):59–65, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Barhen:1989:NLC

- [319] Jacob Barhen, Sandeep Gulati, and Michail Zak. Neural learning of constrained nonlinear transformations. *Computer*, 22(6):67–76, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lee:1989:PRK

- [320] I. Lee, R. B. King, and R. P. Paul. A predictable real-time kernel for distributed multisensor systems. *Computer*, 22(6):78–83, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Roth-Tabak:1989:BEM

- [321] Y. Roth-Tabak and R. Jain. Building an environment model using depth information. *Computer*, 22(6):85–90, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Trivedi:1989:VSR

- [322] M. M. Trivedi, C. X. Chen, and S. B. Marapane. A vision system for robotic inspection and manipulation. *Computer*, 22(6):91–97, June 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Preston:1989:ACB

- [323] K. Preston, Jr. The Abingdon Cross benchmark survey. *Computer*, 22(7):9–18, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Smith:1989:DIS

- [324] J. E. Smith. Dynamic instruction scheduling and the Astronautics ZS-1. *Computer*, 22(7):21–35, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Biggerstaff:1989:DRM

- [325] T. J. Biggerstaff. Design recovery for maintenance and reuse. *Computer*, 22(7):36–49, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Chisvin:1989:CAM

- [326] L. Chisvin and R. J. Duckworth. Content-addressable and associative memory: Alternatives to the ubiquitous RAM. *Computer*, 22(7):51–64, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Dinning:1989:SSM

- [327] A. Dinning. A survey of synchronization methods for parallel computers. *Computer*, 22(7):66–77, July 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

DeFanti:1989:VES

- [328] T. A. DeFanti, M. D. Brown, and B. H. McCormick. Visualization: Expanding scientific and engineering research opportunities. *Computer*, 22(8):12–16, 22–25, August 1989. CODEN CPTRB4.

ISSN 0018-9162 (print), 1558-0814 (electronic).

Phillips:1989:DVA

Helman:1989:RDV

- [329] J. Helman and L. Hesselink. Representation and display of vector field topology in fluid flow data sets. *Computer*, 22(8):27–36, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [334] R. L. Phillips. Distributed visualization at Los Alamos National Laboratory. *Computer*, 22(8):70–77, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cabral:1989:VTA

Long:1989:ARD

- [330] M. B. Long, K. Lyons, and J. K. Lam. Acquisition and representation of 2D and 3D data from turbulent flows and flames. *Computer*, 22(8):39–45, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [335] B. Cabral and C. L. Hunter. Visualization tools at Lawrence Livermore National Laboratory. *Computer*, 22(8):77–84, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Haber:1989:SVR

Fuchs:1989:IVM

- [331] Henry Fuchs, Marc Levoy, and Stephen M. Pizer. Interactive visualization of 3-D medical data. *Computer*, 22(8):46–51, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [336] R. B. Haber. Scientific visualization and the Rivers Project at the National Center for Supercomputing Applications. *Computer*, 22(8):84–89, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Bancroft:1989:SVC

Hibbard:1989:VLD

- [332] W. Hibbard and D. Santek. Visualizing large data sets in the Earth sciences. *Computer*, 22(8):53–59, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

- [337] G. V. Bancroft, T. Plessel, F. Merritt, P. P. Walataka, and V. Watson. Scientific visualization in computational aerodynamics at NASA Ames Research Center. *Computer*, 22(8):89–95, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kluksdahl:1989:RVS

- [333] N. C. Kluksdahl, A. M. Kriman, and D. K. Ferry. The role of visualization in the simulation of quantum electronic transport in semiconductors. *Computer*, 22(8):60–66, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Rosenblum:1989:VED

- [338] L. J. Rosenblum. Visualization of experimental data at the Naval Research Laboratory. *Computer*, 22(8):95–101, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Pappas:1989:TIP

- [339] T. L. Pappas. T_EXnology on the IBM PC. *Computer*, 22(8):111–120, August 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Johnson:1989:XSR

- [340] J. Johnson, T. L. Roberts, W. Verplank, D. C. Smith, C. H. Irby, M. Beard, and K. Mackey. The Xerox Star: a retrospective. *Computer*, 22(9):11–26, 28–29, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Cheng:1989:VPC

- [341] H. Cheng. Vector pipelining, chaining, and speed on the IBM 3090 and Cray X-MP. *Computer*, 22(9):31–42, 44, 46, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lieberherr:1989:AGS

- [342] Karl J. Lieberherr and Ian M. Holland. Assuring good style for object-oriented programs. *Computer*, 22(9):38–44, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Artsy:1989:DPM

- [343] Yeshayahu Artsy and Raphael Finkel. Designing a process migration facility: The Charlotte experience. *Computer*, 22(9):47–56, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic). **Review:** *Computing Reviews*, Vol. 31, No. 8, August 1990.

Ford:1989:MSE

- [344] G. A. Ford and N. E. Gibbs. A Master of Software Engineering Curriculum: Rec-

ommendations from the Software Engineering Institute. *Computer*, 22(9):59–71, September 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ambler:1989:IVT

- [345] A. L. Ambler and M. M. Burnett. Influence of visual technology on the evolution of language environments. *Computer*, 22(10):9–22, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Roman:1989:DAV

- [346] G.-C. Roman and K. C. Cox. A declarative approach to visualizing concurrent computations. *Computer*, 22(10):25–36, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Lehr:1989:VPD

- [347] Ted Lehr, Zary Segall, Dalibor F. Vrsalovic, Eddie Caplan, Alan L. Chung, and Charles E. Fineman. Visualizing performance debugging. *Computer*, 22(10):38–51, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kramer:1989:GCP

- [348] Jeffrey Kramer, J. Magee, and K. Ng. Graphical configuration programming. *Computer*, 22(10):53–58, 62–65, October 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gu:1989:SAV

- [349] J. Gu and K. F. Smith. A structured approach for VLSI circuit design. *Computer*, 22(11):9–22, November 1989. CO-

DEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Hac:1989:SON

- [350] A. Hac and H. B. Mutlu. Synchronous optical network and broadband ISDN protocols. *Computer*, 22(11):26–34, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Singhal:1989:DDD

- [351] M. Singhal. Deadlock detection in distributed systems. *Computer*, 22(11):37–48, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Gries:1989:TSR

- [352] D. Gries and D. Marsh. The 1987–88 Taulbee Survey Report. *Computer*, 22(11):49–56, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1989:CSP

- [353] Anonymous. The computer spectrum: a perspective on the evolution of computing. *Computer*, 22(11):57–63, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Anonymous:1989:SHU

- [354] Anonymous. Supercomputer hardware: an update of the 1983 report's summary and tables. *Computer*, 22(11):63–68, November 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Grosky:1989:GEI

- [355] W. I. Grosky and R. Mehrotra. Guest Editors' introduction: Image database

management. *Computer*, 22(12):7–8, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Kasturi:1989:MDP

- [356] R. Kasturi, R. Fernandez, M. L. Amlani, and W.-C. Feng. Map data processing in Geographic Information Systems. *Computer*, 22(12):10–21, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Brolio:1989:IDS

- [357] J. Brolio, B. A. Draper, J. R. Beveridge, and A. R. Hanson. ISR: A database for symbolic processing in computer vision. *Computer*, 22(12):22–30, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Jagadish:1989:OMI

- [358] H. V. Jagadish and L. O'Gorman. An object model for image recognition. *Computer*, 22(12):33–41, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Goodman:1989:KBC

- [359] Andrew M. Goodman, Robert M. Haralick, and Linda G. Shapiro. Knowledge-based computer vision — integrated programming language and data management system design. *Computer*, 22(12):43–54, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Pizano:1989:SSI

- [360] A. Pizano, A. Klinger, and A. Cardenas. Specification of spatial integrity

constraints in pictorial databases. *Computer*, 22(12):59–71, December 1989. CODEN CPTRB4. ISSN 0018-9162 (print), 1558-0814 (electronic).

Ziv:1977:UAS

- [361] Jacob Ziv and Abraham Lempel. A universal algorithm for sequential data compression. *IEEE Transactions on Information Theory*, IT-23(3):337–343, May 1977. CODEN IETTAW. ISSN 0018-9448 (print), 1557-9654 (electronic).

Ziv:1978:CIS

- [362] J. Ziv and A. Lempel. Compression of individual sequences via variable rate coding. *IEEE Transactions on Information Theory*, IT-24(5):530–536, September 1978. CODEN IETTAW. ISSN 0018-9448 (print), 1557-9654 (electronic).

Crocker:1995:PPN

- [363] Lee Daniel Crocker. PNG: The Portable Network Graphic format. *Dr. Dobb's Journal of Software Tools*, 20(7):36, 38, 40, 42, 44, July 1995. CODEN DDJOEB. ISSN 1044-789X.

Roelofs:1999:PDG

- [364] Greg Roelofs. *PNG: The Definitive Guide*. O'Reilly & Associates, Inc., 103a Morris Street, Sebastopol, CA 95472, USA, Tel: +1 707 829 0515, and 90 Sherman Street, Cambridge, MA 02140, USA, Tel: +1 617 354 5800, 1999. ISBN 1-56592-542-4. xix + 327 + 4 pp. LCCN T385 .R58 1999. US\$32.95. URL <http://www.libpng.org/pub/png/pngbook.html>; <http://www.oreilly.com/catalog/pngdefg>.

Salomon:2000:DCC

- [365] David Salomon. *Data Compression: The Complete Reference*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., second edition, 2000. ISBN 0-387-95045-1. xvi + 823 pp. LCCN QA76.9.D33 S25 2000. US\$39.95. URL <http://www.ecs.csun.edu/~dxs/DCadvertis/Dcomp2Ad.html>.