

Yu-cheng Liu

Education

Ph.D., Electrical Engineering, Northwestern University, 1970.

M.S., Mathematics, Northwestern University, 1967.

B.S., Electrical Engineering, National Taiwan University, Taiwan, 1965.

Experience

Professor, Electrical and Computer Engineering Dept., The University of Texas at El Paso, 1991-present.

Associate Professor, Electrical and Computer Engineering Dept., The University of Texas at El Paso, 1978-1991.

Assistant Professor, Electrical and Computer Engineering Dept., The University of Texas at El Paso, 1971-1973, 1975-1978.

R & D Engineer, NCR Accounting Computer Division, Wichita, KS, 1974-1975.

Research Associate, Bio-Medical Center, Northwestern University, 1970-1971.

Areas of Research Interest

Interconnection Networks of Multiprocessor Systems, Computer Architecture, and Microprocessor Applications.

Publications

Books

"The M68000 Microprocessor Family: Fundamentals of Assembly Language Programming and Interface Design," Y. C. Liu, Prentice-Hall, Inc., 460 pages, 1991.

"Microcomputers for Engineers and Scientists, 2nd Edition," G. A. Gibson and Y. C. Liu, Prentice-Hall, Inc., 495 pages, 1987.

"Microcomputer Systems: The 8086/8088 Family - Architecture, Programming, and Design, 2nd Edition," Y. C. Liu and G. A. Gibson, Prentice-Hall, Inc., 630 pages, 1986. (Also translated into Spanish.)

"Microcomputer Systems: The 8086/8088 Family - Architecture, Programming, and Design," Y. C. Liu and G. A. Gibson, Prentice-Hall, Inc., 560 pages, 1984. (Also translated into Russian.)

"Microcomputers for Engineers and Scientists", G. A. Gibson and Y. C. Liu, Prentice-Hall,

Inc., 490 pages, 1980. (Also translated into Russian.)

Supplementary Teaching Manuals

"Instructor's Manual for The M68000 Microprocessor Family: Fundamentals of Assembly Language Programming and Interface Design," Y. C. Liu, Prentice-Hall, Inc., 101 pages, 1992.

"Solutions Manual and Instructor's Guide for Microcomputers for Engineers and Scientists, 2nd Edition," G. A. Gibson and Y. C. Liu, Prentice-Hall, Inc., 140 pages, 1987.

"Solutions Manual for Microcomputer Systems: The 8086/8088 Family, Architecture, Programming and Design," Y. C. Liu and G. A. Gibson, Prentice-Hall, Inc., 88 pages, 1985.

"Solutions Manual for Microcomputers for Engineers and Scientists," G. A. Gibson and Y. C. Liu, Prentice-Hall, Inc., 84 pages, 1980.

Papers in Refereed Journals

"Performance Model for a Prioritized Multiple-Bus Multiprocessor System", L. K. John and Y. C. Liu, IEEE Transactions on Computers, Vol. 45, No. 5, May 1996, pp. 580-588.

"Design and Implementation of an EPROM Emulator as a Low-Cost Microprocessor Development Tool", Y. C. Liu and G. Showalter, Microprocessors and Microsystems, Vol. 17, No. 10, December 1993, pp. 627-630.

"Analysis of Prioritized Crossbar Multiprocessor Systems," Y. C. Liu and C. Wang, Journal of Parallel and Distributed Computing, Vol. 7, No. 2, October 1989, pp. 321-334.

"Effective Memory Bandwidth and Processor Blocking Probability in Multiple-Bus Systems," Y. C. Liu and C. J. Jou, IEEE Transactions on Computers, Vol. C-36, No. 6, June 1987, pp. 761-764.

"Error Correction in Redundant Residue Number Systems," S. S. Yau and Y. C. Liu, IEEE Transactions on Computers, Vol. C-22, No. 1, January 1973, pp. 5-11.

"On Decoding of Maximum-Distance Separable Linear Codes," S. S. Yau and Y. C. Liu, IEEE Transactions on Information Theory, Vol. IT-17, No. 4, July 1971, pp. 487-491.

Papers in Conference Proceedings

"A Microprocessor Course Incorporated with Communication Component", Y. C. Liu,

Proceedings of 2000 Conference of the Gulf-Southwest Section of ASEE, Las Cruces, New Mexico, April 5-8, 2000, Session 87C2.

"Development System for Undergraduate Microprocessor Courses", Y. C. Liu, 1996 ASEE Annual Conference Proceedings, Washington, D.C., June 23-26, 1996, Session 1626.

"Intelligent Memory Controllers for Modularly Configured Attached Processors", Y. C. Liu, G. Gibson, and S. Vaishampayan, Proceedings of the ISCA International Conference on Computers and Their Applications, November 29 - December 1, 1995, Honolulu, Hawaii, pp. 84-88.

"A Digital Attitude Control System for NASA Sounding Rockets", C. Martinez and Y. C. Liu, Proceedings of the ISCA International Conference on Computers and Their Applications, November 29 - December 1, 1995, Honolulu, Hawaii, pp. 103-106.

"MCM Implementation of Modularly Configurable Attached Processors", G. Gibson, V. Singh, S. Singh, Y. C. Liu, Y. C. Cheng, and S. Cabrera, 1994 International Computer Symposium, December 12-15, 1994, Hsinchu, Taiwan, Vol. 1, pp. 465-472.

"Application of Computational Intensity to Memory Hierarchy Design", G. Gibson, Y. C. Liu, and Y. C. Cheng, 1994 International Computer Symposium, December 12-15, 1994, Hsinchu, Taiwan, Vol. 1, pp. 328-335.

"A Neural Network with Applications Requiring Sequential Inputs and Outputs", Y. C. Liu and C. Sheng, Proceedings of the ISCA International Conference on Computers and Their Applications, December 15-17, 1994, San Diego, California, pp. 106-109.

"Performance Model for a Prioritized Multiple-Bus Multiprocessor System", L. Kurian and Y. C. Liu, Proceedings of the Sixth IEEE Symposium on Parallel and Distributed Processing, October 26-29, 1994, Dallas, Texas, pp. 577-584.

"Temporal Associative Memory with Finite Internal States", C. Sheng and Y. C. Liu, Proceedings of IEEE International Conference on Neural Networks June 28-July 2, 1994, Orlando, Florida, Vol. 2, pp. 1109-1114.

"Estimates of Effective Memory Bandwidth for Crossbar Multiprocessor Systems by Decomposition," Y. C. Liu and S. W. Chao, Proceedings of ISCA Sixth International Conference on Parallel and Distributed Computing and Systems, Louisville, Kentucky, October 1993, pp. 199-203.

"A Hardware Oriented Microprocessor Laboratory and Student Designed Development Tool", Y. C. Liu, Proceedings of 1993 Centennial Meeting of the Gulf-Southwest Section of ASEE, Vol. II, pp. 589-596, April 1-2, 1993, Austin Texas.

"Computer-Aided Electronics Design Center," G. A. Gibson, C. McDonald, Y. C. Liu, Y. C. Chang and J. Myers, 1992 ASEE Annual Conference Proceedings, Toledo, Ohio, June 1992, pp 460-465.

"Analysis of Ring, Cube and Tree Multimicrocomputer Systems," K. Venkatasubramaniam and Y. C. Liu, Proceedings of IEEE 1986 Region 5 Conference, Lafayette, Louisiana, April 1986, pp. 150-155.

"A Minicomputer Based Educational System," G. A. Gibson, Y. C. Liu, D. C. Schroder and C. McDonald, Frontiers in Education Conference, October 1977, Champaign, Illinois, pp. 405-412.

"A Method for Single Byte Error Correction in Memory Systems," (Abstract), Y. C. Liu, 1973 International Symposium on Fault-Tolerant Computing, Palo Alto, California, June 1973.

"Design and Traffic Analysis of Blocking Type Digital Tandem Switch," Y. C. Liu and S. Suthasinekul, 1973 National Telecommunication Conference, Atlanta, Georgia, November 1973, Vol. 1, pp. 14A1 to 14A8.

"Error Correction in Redundant Residue Number Systems," S. S. Yau and Y. C. Liu, Symposium on Computer Arithmetic, University of Maryland, Maryland, May 1972, Vol. 1.

Ph.D. Dissertation Directed: 1

M.S. Theses Directed: 17

Non-Thesis M.S. Students Supervised: 6

Professional Society Membership:

Member of IEEE

Member of Sigma Xi

Registered professional engineer in Texas (#84544)