Krishna M. Kavi

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Education:
4. Ph.D. (Computer Science and Engineering), SMU, Dallas, Aug. 1980.
3. MS (Computer Science and Engineering), SMU, Dec. 1977.
2. BE (Electrical), Indian Institute of Science, July 1975.
1. BSc. (Physics), Andhra University, India, July 1972.

Employment:

2009 – Present. Professor and Director, NSF Net-Centric Software and Systems Industry/University Cooperative Research Center (Net-Centric IUCRC)
- Managed 4 university sites and 20 industrial members
- An average of $1M per year in research expenditures
- More than 250 publications over the past 9 years
- More than 30 PhD and 75 MS students participated in center research
- About 40 graduates were employed by member companies

2010 – Present. International Faculty Member EECS Center for Circuit Theory, Communications and Signal Processing (CTCSP), National Chiao-Tung University, Hsinchu, Taiwan (http://moser.cm.nctu.edu.tw/ctcsp/)

January 2010-June 2010. Visiting Faculty, Department of Computer Science, National Chiao-Tung University, Hsinchu, Taiwan
- Worked on Embedded systems, processors for handheld devices
- Presented seminars at several major universities in Taiwan and at Academia Sinica

2001- 2009. Professor and Chair, Computer Science and Engineering, University of North Texas
- Hired 8 tenure-track and 3 lecturers, including 4 women, one Hispanic faculty members.
- Research expenditures of faculty research and other activities have grown from less than $200K in 2001 to nearly $2.5M in 2006-2007 and 2007-2008. Two faculty members received NSF CAREER awards and one received the Presidential Early Career Award for Scientists and Engineers (PECASE). The number of publications by faculty and graduate students (in peer reviewed journals and conference proceedings) has increased from 18 in 2001 to 100 in 2007.
- Enrollments in graduate programs and the number of graduate degrees awarded each year have increased. PhD enrollments have tripled since 2001 to 50 fulltime students in 2008-2009.
- In 2003, BS in CS received a full NGR accreditation from ABET/CAC, for the first time in the 30-year history of the department.
- The department started BS and MS in Computer Engineering in 2003 and graduated first BS class in Spring 2007. This program received full NGR accreditation form ABET/EAC in 2008 – a rarity for a new program.

- Established an innovative BA in Information Technology, which provides a strong CS foundation but requires students to elect a minor discipline outside of CS and apply IT solutions to the discipline during their senior capstone project. This program is in line with the recommendations for a "liberal arts of engineering" made by the Academy of Engineers.

1997- 2001 Eminent Scholar Chair Professor of Computer Engineering
ECE Department, University of Alabama in Huntsville

- Headed Computer Engineering degree programs; revised courses and curricula; developed assessment processes that led to a full NGR ABET/EAC accreditation for the BS in Computer Engineering degree.
- Worked with ADTRAN, Inc., to develop accelerated MS degrees in Telecommunications and Real-Time Systems.
- Developed a joint PhD program in Computer Engineering for the University of Alabama campuses in Huntsville and Birmingham.
- Served as an ABET/EAC Computer Engineering program evaluator (1999-2005).
- Continued personal research with publications (with more than 30 peer reviewed publication during 1997-2001); funding (more than $700K as PI or co-PI, during 1997-2001) and graduate student supervision (3 PhD's and 4 MS students during 1997-2001).

1993- 1995 Program Manager
CCR Division, CISE Directorate, National Science Foundation

- Managed two research programs: Systems Software and Compilers, with an annual budget of $7M.
- Streamlined the review process and created an extensive database of reviewers.
- Held workshops to define research directions for the research programs.
- Collaborated with other agencies (DARPA, AFOSR, ONR) to create a compiler infrastructure program.
- Participated in a subcommittee that worked on the PITAC; the committee made recommendations to President Clinton on research priorities in information technology. This in turn lead to substantial increase in budget for Computer Science and Engineering related programs at NSF.

1982- 1997 Professor
Computer Science and Engineering, University of Texas –Arlington

- Progressed through the academic ranks
    a. Assistant Professor 1982-1986
    b. Associate Professor with Tenure 1986-1991
    c. Full Professor since 1991
- Established an Honors Program in Parallel Processing with NSF funding.
- Served as a CSAB Computer Science program evaluator (1991-1997).
- Served as an editor of the IEEE Transactions on Computer (1993-1997) and the editorial board of IEEE Computer Society (1988-1992).
- Served as an IEEE Distinguished visitor (1989-1992).
- Continued personal research with publications (with more than 65 peer reviewed publication); funding (nearly $1.5M as PI or co-PI) and graduate student supervision (5 PhD's and 30 MS students graduated).

1980-1982 Assistant Professor
CS, University of Louisiana in Lafayette
(formerly known as the University of Southwestern)Louisiana
- Worked with EE faculty to develop Computer Engineering curricula at BS and MS level.

- Received funding from Texas Instruments to develop distributed systems

Honors and Awards:

19. Fellow, International Academy, Research and Industry Association (IARIA), 2016
18. SMU CSE Distinguished Alum at CSE 40th Anniversary Banquet, Nov. 2007.
17. Keynote speaker, 19th Intl. Conf. on Parallel and Distributed Computing Systems (PDCS-2006), Sept. 20, 2006, San Francisco, CA
16. IEEE CS Distinguished visitor, 2006-2007 and 1989-1992.
15. Editor, IEEE Transactions on Software Engineering, 1995-1999
14. Keynote Speaker, 11th Intl. Conference on Advanced Computing, Coimbatore, India, Dec. 17-20, 2003
13. Keynote Speaker, INFOFEST-98, (Budva, Montenegro, Yugoslavia), Sept 28, 1998
12. Keynote Speaker, PAPM-98 (Process Algebra and Performance Modeling), Nice, France, Sept. 12, 1998.
11. Editor, IEEE Transactions on Computers, 1993-1997.
10. IEEE CS Certificate of Appreciation, 1991, 1993, 1996, 1998.
9. Listed in Who is Who in Technology, 1988.
8. Halliburton Outstanding Young Faculty Award, UTA College of Eng., 1988.
7. Senior Member, IEEE, 1986.
6. Teacher of the Year, College of Engineering, UTA, May 1985.
5. Listed in Who is Who in Frontier Science and Technology, 1984-1985.
4. Listed in Outstanding Young Men of America, 1983.
3. F. E. Termann Award (Outstanding Graduate Student), SMU, 1979.
2. Indian National Merit Scholarship, 1972.
1. Indian Institute of Science Merit Fellowship, 1972-1975.

Research and Scholarly Activities

Patents and Inventions

US Patent 9396135 B2 (granted on July 19, 2016) A method and apparatus for improving computer cache performance and for protecting memory systems against some side channel attacks.

U.S. Provisional Patent Application No. US20180176262 (filed on August 16, 2017). SYSTEMS AND METHODS FOR DEVICE SPECIFIC SECURITY POLICY CONTROL Inventor: Krishna Kavi

US Provisional Patent Application No. US20180205755 filed January 19, 2018. "Systems and methods for adaptive vulnerability detection and management". Inventors: Krishna Kavi and Patrick Kamongi.

Patent application to be filed soon: Defeating speculative execution to mitigate some side-channel attacks.

Published

Books, Edited Volumes, Chapters in Books:

16. **K. Kavi.** "Queuing system simulations", Chapter 14, in *An introduction to Queuing theory,* by U. Narayan Bhat, Birkhauser, Boston, 2014

15. **K. Kavi.** "Queuing theory applications in the analysis of computer and communication systems", Chapter 13, in *An introduction to Queuing theory,* by U. Narayan Bhat, Birkhauser, Boston, 2014

14. **K. Kavi**, D. Pace and C. Shelor. "Concurrency, Synchronization, Speculation - the Dataflow way", in *Dataflow Processing, Ali hurson and Veljko Mikutinovic, editors, Advances in Computers, Vol. 96*, PP 47-104, Academic Press, UK.

13. T. Janjusic and **K. Kavi.** "Program analysis tools: A survey", Advances in Computers, Academic Press, Volume 12, No.1, Jan. 2014, pp 105-160.

12. R.Paul, I.L.Yen, F. Bastani,W.T. Tsai, **K.M.Kavi**, A. Ghafoor and J. Srivastava. "An ontology-based integrated assessment framework for high-assurance systems", in Semantic Computing, Edited by Chen-Yu (Phillip) Sheu. 2009

11. **K.M. Kavi,** R. Akl and A.R. Hurson. "Real-Time Systems: An introduction and the state-of-the-art", *Wiley Encyclopedia of Computer Science*, pp 2369-2377,Vol. 4, ISBBN 978-0-471-38393-2, Jan 2009.

10. A.R. Hurson and **K.M. Kavi**. Dataflow Revival – a renewed interest in dataflow architecture", *Wiley Encyclopedia of Computer Science*, pp 890-901, Volume 2, ISBBN 978-0-471-38393-2, Jan 2009.

9   **K.M. Kavi** and R. Akl. Modeling and Analysis using Computational Tools, in *Queuing Theory: Modeling and Analysis* by U. Narayan Bhat, published by Birkhauser, Boston, 2007.

8. D. Kung and **K. Kavi,** "Conceptual modeling and software design of multi-agent systems", in Conceptual Modeling in Information Systems Engineering, edited by J. Krogstle, A. Lothe and S. Brinkkemper, Published by Springer, June, 2007, pp 159-176.

7. **K.M. Kavi, H**. -S. Kim, B. Lee and Ali Hurson. "Distributed Shared Memory Systems: A survey", *Advances in Computers,* Vol. 53, pp 55-108, (Edited by M. Zerkowitz), Academic Press, 2000.

6. **K.M. Kavi,** B. Lee and Ali Hurson. "Multithreaded systems: A survey", In *Advances in Computers,* Vol. 46, pp 287-327, (Edited by M. Zerkowitz), Academic Press, 1998.

5. A.R. Hurson, J.T. Lim, K.M**. Kavi** and B. Lee "Parallelization of DOALL and DOACROSS loops - a survey", *Advances in Computers*, Vol. 45, pp 54-105, (Edited by M. Zerkowitz), Academic Press 1997.

4. B. Shirazi, A.R. Hurson and K.M**. Kavi** (Editors), IEEE CS Press Tutorial on *Scheduling and Load Balancing in Parallel and Distributed Systems*, 1995.

3. **K.M. Kavi** (Editor) IEEE CS Tutorial on *Real-Time Systems: Abstractions, Languages and Design Methodologies*, Nov. 1992, IEEE Computer Society Press.

2. **K.M. Kavi** and T.C. Lin. "Reliability analysis using dataflow graph models and approximate solutions", in *Approximation, Optimization and Computing*, edited by A.G. Law and C.L. Wang, North-Holland/Elsevier, New York, 1990. pp. 105-109.

1. **K.M. Kavi** and B.D. Shriver. (Editors) *Proceedings of the IEEE workshop on Computer Systems Organization*, New Orleans, March 21-23, 1983.

Journals:

46. M. Islam, S. Adavally, M. Scrbak, K. Kavi. "On-the-Fly page migration and address reconcilie for heterogeneous memory systems", Submitted to the ACM Journal of Emerging Technologies in Computer Systems.

45. M. Scrbak, M. Islam, K. Kavi, M. Ignatowski and N. Jayaseana. "Exploring Processing-in-Memory design space", *Journal of Systems Architecture* (Elsevier), April 2017, pp 59-67, DOI 10.1016/j.sysarc.2016.08.001.

44. M. Rezaei and **K. Kavi**. "ABT and SBT revisited: Efficient memory management techniques for object-oriented and web-based applications", in *Scietia Irancia, Transactions D: Computer Science & Engineering and Electrical Engineering*, Vol. 23, No. 3, June 2016, pp 1217-1227.

43. **K. Kavi**, S. Pianelli, G. Pisano and G. Regina. "Memory organizations for 3D DRAMs and PCMs in processor memory hierarchy", in the Elsevier *Journal of Systems Architecture*, Vol. 61, No. 10, Nov. 2015, pp 539-552,, DOI: 10.1016/j.sysarc.2015.07.00

42. C-Y. Lee, P. Kamongi, **K. Kavi** and M. Gomathisankaran. "Optimus: Framework of vulnerabilities, attacks, defenses, SLA and Privacy Ontologies", the *International Journal of Next-Generation Computing*, Vol. 6, No. 1, March 2015.

41. Charles Shelor*, James Buchanan*, **Krishna Kavi** and Ron Cytron . Potential Energy Savings Through Eliminating Unnecessary Writes in the Cache-Memory Hierarchy. *International Journal of Computers and Their Applications, IJCA*, Vol. 21, No. 3, Sept. 2014, pp 178-187.

40. C.H. Lin, C.Y. Lee, **K.M. Kavi** and D.J. Chen. An evaluation criterion and an approach to improve the security fitness of SHA-256 via genetic algorithm, the *Journal of Information Science and Engineering*. Vol 29, No. 5, Sept 2013.

39. Chia-en Lin and **K. Kavi**. " A QoS-Aware BPEL Framework for Service Selection and Composition Using QoS Properties", *International Journal On Advances in Software*, v 6 n 1&2, June 2013, pp 56-68.

38. **K. Kavi,** I. Nwachukwu, A. Fawibe "Performance improvement schemes for direct mapped caches", *Elsevier Journal of Computers and Electrical Engineering*, Vol. 38, Issue 2 (March 2012), pp 243-257.

37. A. Naz and **K. Kavi**, "A smart cache design for embedded applications", *International Journal of Advanced Research in Computer Science*, Vol. 3, No. 1, Jan-Feb 2012, pp 114-122

36. **K. Kavi.** "Glass Box: An intelligent flight data recorder", *IEEE Spectrum*, pp 46-51, August 2010.

35. Wentong Li, Mehran Rezaei, **Krishna Kavi**, Afrin Naz and Philip Sweany. "Feasibility of decoupling memory management from the execution pipeline", *Journal of Systems Architecture* (published by Elsevier), Vol. 53, No. 12, pp 927-936, (Dec. 2007). Among top 25 most downloaded papers.

34. Wenming Li, **Krishna Kavi** and Robert Akl. "A non-preemptive scheduling algorithm for soft real-time systems" *Elsevier Journal of Computers and Electrical Engineering*, Vol. 33, No. 1, pages 12-29 Jan 2007.

33. Wentong Li, Saraju Mohanty and **Krishna Kavi**. "Page-based software-hardware co-design of a dynamic memory allocator", *IEEE Computer Architecture Letters*, Volume 5, No. 2 , July 2006.

32. Afrin Naz, **Krishna Kavi**, Wentong Li and Philip Sweany. "Tiny split data caches make big performance impact for embedded applications", *Journal of Embedded Computing* (IOS Press), Vol. 2, No. 2 (November 2006), pp 207-219.

31. Mehran Rezaei and **Krishna Kavi.** "Elimination of Cache Pollution Due to Memory Management using an Intelligent Memory Manager", *Journal of Systems Architecture* (published by Elsevier), January 2006, Volume 52, No.1, pp 41-55.

Journals (continued)

30. Frederick. Sheldon, Thomas Potok and **Krishna Kavi.** "Multi-agent system case studies in command and control, information fusion and data management", *Journal of Informatica* (published by the Solvene Society Informatica, http://ai.ijs.si/informatica/) Volume 28, No. 1, April 2004, pp 78-89.

29. **Krishna Kavi** and Dinesh Mehta. "Mutual Exclusion. On Optical Networks", *Parallel Processing Letters*., Volume 12, No. 3&4, pp 341-358, Dec. 2002.

28. **Krishna Kavi,** Ali Reza Moshtaghi and Deng-Jyi Chen. "Modeling multithreaded applications using Petri nets", *International Journal on Parallel Programming* (published by Kluwer/Plenum Publishing), Vol. 30, No. 5, pp 353-371, October 2002.

27. D.J. Chen, W.C. Chen and **K.M. Kavi.** Visual Requirements Representation, *Journal of Systems and Software*, Vlo. 61, Issue 2, March 15, 2002, pp 129-143.

26. **K.M. Kavi,** R. Giorgi and J. Arul. "Scheduled Dataflow: Execution paradigm, architecture and performance evaluation", *IEEE Transactions on Computer*, Vol. 50, No. 8, pp 834-846, Aug. 2001.

25. P.Y. Chang, D.J. Chen and **K.M. Kavi.** "File allocation algorithms to minimize data transmission time for real-time applications in distributed computing systems", *Journal of Information Science and Engineering*, (Institute of Information Science, Taipei, Taiwan), Vol 17, pp 633-646, 2001.

24. **K.M. Kavi,** J. Arul and R. Giorgi. "Execution and cache performance of the Scheduled Dataflow Architecture", *Journal of Universal Computer Science*, Special Issue on Multithreaded and Chip Multiprocessors, Oct. 2000, pp 948-967, Vol. 6, No. 10.

23. P.Y. Chang, D.J. Chen and **K.M. Kavi.** "Multimedia file allocation under virtual circuit using multipath routing", *IEEE Transactions on Computers*, Sept. 2000, pp 971-977, Vol. 49, No. 9.

22. **K.M. Kavi**. H.S. Kim and A.R. Hurson. "Scheduled dataflow architecture: A synchronous execution paradigm for dataflow", *IASTED Journal of Computers and Applications*. Vol. 21, No. 3 (Oct. 1999), pp 114-124.

21. **K.M. Kavi.** "Multithreaded System Implementations", *IASTED Journal on Microcomputer Applications.,* Vol. 17, No. 2, 1999, pp 70-84.

20. **K.M. Kavi,** J.C. Browne and A. Tripathi "Computer systems research: The pressure is on", *IEEE Computer*, January 1999, pp 30-39.

19. **K.M. Kavi** and A.R. Hurson. "Design of cache memories in dataflow architectures", *Journal of Systems Architecture* (published by Elsevier) Vol. 44, No. 9-10, June 1998, pp 657-674.

18. A.R. Hurson, **K.M. Kavi** and J.T. Lim. "Cyclic Staggering Scheme: A loop allocation policy for DOACROSS loops", *IEEE Transactions on Computers*., Feb. 1998, pp 251-255.

17. A.R. Hurson, **K.M. Kavi** and B. Lee. "Cache Memories in Dataflow Architectures", *IEEE Parallel and Distributed Technology.*, Winter 1996, pp 50-64.

16. **K.M. Kavi** and Ez Nahouraii. "Assessment of Software Tools: Guest Editors Introduction", *IEEE Software*, Sept. 1996, pp 23-26.

15. **K.M. Kavi**, B. Wyatt and B. Shirazi. "Evaluation of dynamic inheritance in distributed environments", *IASTED Journal of Microcomputer Applications* .Vol. 15, No. 1, July . 1996, pp 26-37.

14. **K.M. Kavi**, F.T. Sheldon and S. Reed. "Specification and analysis of real-time systems using CSP and Petri nets", *International Journal of Software Engineering and Knowledge Engineering,* (World Scientific Publishing Company) Vol. 6, No. 2, June 1996, pp 229-248.

13. B.P. Weems, **K.M. Kavi** and B. Shirazi. "HIPP: An honors program in parallel processing", *International Journal of Engineering Education*. , Volume 11, No. 4 and 5, Nov. 1995, pp 329-335.

12. B.G. Wyatt, **K. M. Kavi** and S.P. Hufnagle. "Parallelism in object oriented languages: A survey", *IEEE Software,* Nov. 1992, pp. 56-66.

11. **K. M. Kavi** and B. Shirazi. "Dataflow Architecture: Are dataflow computers commercially viable?", *IEEE Potentials*, Oct. 1992, pp. 27-30

10. F.T. Sheldon, **K.M. Kavi,** R.C. Tausworthe, J.T. Yu, R. Brettschneider and W.W. Everett. "Software reliability measurement: From theory to practice", *IEEE Software*, July, 1992, pp. 13-20.

9. **K.M. Kavi** and S.M. Yang. "A survey of real-time design methodologies", *Journal of Systems and Software* (Elsevier Science Publishing), April 1992, pp. 85-99.

8. **K.M. Kavi** and A.K. Deshpande. "Specification of concurrent processes using a dataflow model of computation and partially ordered events", *Journal of Systems and Software* (Elsevier Science Publishing, Vol. 16, No. 2, pp. 107-120, Oct. 1991.

7. D.J. Chen and **K.M. Kavi**. "Stochastic dataflow graph models for the reliability analysis of interconnection and computer networks", *Journal of Information Science and Engineering* (Institute of Information Science, Taipei, Taiwan), Vol. 7, No. 2, June 1991, pp. 253-278.

6. A.K. Deshpande and **K.M. Kavi**. "A Model for the specification of concurrent processes", IASTED *Journal of Microcomputer Applications* Vol. 8, No. 3, 1989, pp. 95-102, (ACTA Press for International Society for Mini and Microcomputers - ISMM).

5. A.K. Deshpande and **K.M. Kavi**. "A review of specification and verification methods for parallel programs, including the dataflow approach", *IEEE proceedings*, Vol. 77, No. 12, (Dec. 1989), pp. 1816-1828.

4. **K.M. Kavi**, B.P. Buckles and U.N. Bhat. "Isomorphisms between Petri nets and Dataflow graphs", *IEEE Tr. on Software Engineering,* Oct. 1987, pp. 1127-1134 (SE-13, 10).

3. U.N. Bhat and **K.M. Kavi**. "Reliability analysis of computer systems including Petri nets and dataflow graphs', *Sadhana,* Oct. 1987, pp. 167-186 (Vol. 11, Parts 1&2).

2. **K.M. Kavi** and U.N. Bhat. "Reliability analysis of computer systems using dataflow graph models", *IEEE Tr. on Reliability,* Dec. 1986, pp. 529-532, (R-35, 5)

1. **K.M. Kavi**, B.P. Buckles and U.N. Bhat. "A formal definition of dataflow graph models", *IEEE Tr. on Comp.*, Nov. 1986, pp. 940-948 (C-35, 11).

Refereed Conference Proceedings:

133. Charles Shelor, Krishna Kavi, "Reconfigurable Dataflow Graphs For Processing-In-Memory", *Proceedings of the IEEE 20th International Conference on Distributed Computing and Networking (ICDCN-2019)*, Bangaluru, India, Jan. 4-7, 201

132. R. Yanambaka, P. Kamongi and K. Kavi. "An ontology driven framework for security and resiliency in cyber-physical systems", *Proceedings of the 13th International Conference on Software Engineering Advances (ICSEA-2018)*, Nice, France, Oct. 14-18, 2018.

131. S. Adavally and K. Kavi. ""3D-DRAM performance for different OpenMP scheduling techniques in multicore systems", *Proceedings of the 20th IEEE International Conference on High Performance Computing and Communications (HPCC-2018)*, Exeter, UK, June 28-30, 2018

130. R. Yanambaka* and **K. Kavi**. "CLIPS: Customized levels of IoT privacy and security", *Proceedings of the 12th International Conference on Softare Engineering Advances (ICSEA-2017)*, Oct 8-12, 2017, Athens, Greece (7 pages)

129. C. Shelor* and **K. Kavi**. "Dataflow based near data computing achieves excellent energy efficiency", *International symposium on Highly-Efficient Accelerators and Reconfigurable Technologies (HEART 2017)*, Bochum, Germany, June 7-9, 2017 (7 pages)

128. M. Scrbak*, **K. Kavi**, J. Greathouse, N. Jayasena. "DVFS space exploration in power constrained processing-memory systems, the 30th *International Conference on Architecture of Computer Systems (ARCS 2017)*, April 3-6, 2017, Vienna, Austria (12 pages)

127. M. Islam*, **K. Kavi,** M. Meswami and N. Jaysena. "3D-DRAM resident prefetching for heterogeneous memory systems", the 30th *International Conference on Architecture of Computer Systems (ARCS 2017)*, April 3-6, 2017, Vienna, Austria (12 pages)

126. C. F. Shelor and **K. Kavi.** "Dataflow based near data computing achieves excellent energy efficiency", Proceedings of the 8th *International symposium on Highly-Efficient Accelerators and Reconfigurable Technologies (HEART-2017)*, Bochum, Germany, June 7-9, 2017 (6 pages)

126. M. Islam, K. Kavi, S. Banerjee and M. Meswani. "Prefetching as a potentially effective technique for hybrid memory optimization", Proceedings of the International Symposium on Memory Systems (MEMSYS 2016), Oct. 3-6, 2016, Washington, DC.

125. P. Kamongi, K. Kavi and M. Gomathisankaran. "Predicting unknown vulnerabilities using software metrics and maturity models", The 8th International conferences on software engineering advances (ICSEA-2016), pp 311-317, Rome, Italy, August 21-25, 2016.

Refereed Conference Proceedings (continued):

124. A. Gopalakrishnan and K.M. Kavi. "Probabilistic analysis of contracting Ebola virus using contextual intelligence", Proceedings of the 2nd International conference on health informatics and medical systems (HiMS'16), pp 72-78, Las Vegas, NV, July 25-28, 2016.

123. C. Shelor, K. Kavi and S. Adavally. "Dataflow based near-data processing using coarse grained reconfigurable logic", 3rd Workshop on Near-Data Processing (WoNdp-3), Waikiki, HI, Dec. 2015.

122. Chen-Yu Lee and Krishna Kavi. "Evaluation of Security Service Level Agreements", *Proceedings of the International Conference on Software Engineering Advances (ICSEA-2015),* Barcelona, Spain, Nov 15-19, 2015.

121. J. Shidal, A.J. Spilo, P. T. Scheid, R. Cytron and **K. Kavi.** "Recycling trash in cache", *Proceedings of the International Symposium on Memory Management (ISMM-2015),* June 14, 2015, Portland, OR.

120. C. Shelor* and **K. Kavi.** "Moola: A multicore cache simulator", *Proceedings of the International Conference on Computers and Their Applications (CATA 2015),* Honolulu, Hawaii, March 9-11, 2015.

119. M. Scrbak*, M. Islam*, **K. Kavi**, N. Jayasena and M. Ignatowski. "Processing in Memory: Exploring the design space", *the 28th International conference on Architecture of Computing Systems (ARCS-2015*), Porto, Portugal, March 24-27, 2014, pp 43-54.

118. C-Y. Lee, **K. Kavi,** R. Paul. Ontology of Secure Service Level Agreement", *16th IEEE International Symposium on High Assurance Systems Engineering (HASE 2015),* January 8-10, 2015, Daytona Beach, FL

117. P. Kamongi, M. Gomathisankaran, **K. Kavi.** "Nemesis: Automated architecture for threat modeling and risk assessment for Cloud computing", Proceedings of the *6th ASE International Conference on Privacy, Security, Risk and Trust (PASSAT-2014),* Dec. 13-16, 2014, Cambridge, MA

116. ChenYu Lee, **K.M. Kavi,** M. Gomathisankaran, P. Kamongi, "Security through software rejuvenation", *9th International Conference on Software Engineering Advances (ICSEA-2014),* Oct. 12-16, 2014, Nice, France

115. Chia-En Lin and **K. M. Kavi**, "Performance engineering using performance anti-patterns", *9th International Conference on Software Engineering Advances (ICSEA-2014),* Oct. 12-16, 2014, Nice, France.

114. M. Islam, M. Scrback, **K.M. Kavi,** M. Ignatowski and N. Jayasena. "Improving node-level Map-Reduce performance using processing-in-memory technologies", *7th Workshop on UnConventional High Performance Computing (UCHPC2004)*, held in conjunction with the 20th European Conference Parallel Processing (EuroPar 2014), Porto, Portugal, Aug. 25-29, 2014.

113. ChenYu Lee, **K.M. Kavi** and M. Gomathisankaran. "Ontology based privacy setting transfer scheme on social networking systems", *2014 International conference on security and management (SAM'14)*, July 21-24, Las Vegas, NV, USA, pp 392-398.

112. ChenYu Lee, **K.M. Kavi** and M. Gomathisankaran. "Component rejuvenation for security in Cloud services", *2014 International conference on security and management (SAM'14),* July 21-24, Las Vegas, NV, USA, pp 399-405.

111. J. Shidal, Z. Gottlieb, R. Cytron, **K. Kavi.** "Trash in Cache: Detecting eternally silent stores", *ACM SIGPLAN Workshop on Memory Systems Performance and Correctness (MSPC-2014*), June 13, 2014, Edinburgh, Scotland, Co-located with PLDI 2014.

110. Xiajun Wang, Song Fu and **Krishna Kavi.** "Characterizing workload of Web applications on virtualized servers", *BPOE-4: the fourth workshop on Big data benchmarks, Performance Optimizations and Emerging hardwar*e, held in conjunction with ASPLOS-2014, Salt Lake City, UT, March 1, 2014.

109. C. Shelor, J. Buchanan, **K. Kavi** and R. Cytron. "Quantifying wasted writes energy in memory hierarchy", *CATA 2014*, Las Vegas, March 24-26, 2014,

Refereed Conference Proceedings (continued):

108. **K. Kavi,** S. Pianelli, G. Pisano, G. Regina and M. Ignatowski. "3D DRAM and PCMs in Processor Memory Hierarchy", _International Conference on Architecture of Computer Systems (ARCS 2014)_, pp 184-196, Feb 25-28, 2014, Luebeck, Germany.

107. D. Pace and **K. Kavi.** MT-SDF: Scheduled Dataflow Architecture with mini-threads, _DFM-2013 Workshop, Held in conjunction with PACT-2013_, Edinburgh, Scotland, Sept 8-11, 2013.

106. R. Tidwell, S. Akumall, S. Karlaputi, R. Akl, **K. Kavi** and D. Struble. "Evaluating the feasibility of EMG and bend sensors for classifying hand gestures", _Proceedings of the International Conference on Multimedia and Human Computer Interaction (MHCI-13)_, July 18-19, Toronto, Canada.

105. P. Kamongi, S. Kotikela, **K. Kavi,** M. Gomathisankaran and A. Singhal. "VULCAN: Vulnerability assessment framework for Cloud computing", _Proceedings of the IEEE 7th International Conference on Software Security and Reliability_, June 18-20, 2013, Washington, DC.

104. J. Sherman, B. Potter, **K. Kavi** and M. Igantowski. "A multicore memory organization for 3D-DRAM as main memory", _Proceedings of the 26th International conferernce the Architecture of Computer Systems (ARCS-2013)_, Prague, Czech Republic, Feb 19-22, 2013, pp 62-73 (acceptance rate: 35%).

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5. **K.M. Kavi** and H.G. Cragon. "A conceptual framework for the description and classification of computer architecture", *Proc. IEEE intl. wksp. on Comp. Syst. Org.,* New Orleans, Mar. 29-31, 1983, pp. 10-19.

4. T.E. Perkins and **K.M. Kavi.** "Heuristic graph algorithms for modularization", *Proc. 5th intl. conf. on computer capacity management,* New Orleans, Apr. 18-20, 1983, pp. 246-252.

3. **K.M. Kavi**, B. Belkhouche, E. Bullard, L. Delcambre and S. Nemecek. "HLL architectures: pitfalls and predilections", *Proc. 9th annl. symp. on comp. arch.,* (ISCA-9)Apr. 26-29, 1982, Austin, TX., pp. 18-23 (acceptance rate 39%)

2. **K.M. Kavi** and U.B. Jackson. "Effects of declaration statements on software science", *Proc. of SCORE-82: Wksp. on software counting rules,* Mar. 23-24, 1982, IBM-SRI, New York. (proceedings available as SIGMETRICS Vol. 11, No. 2), pp. 57-71.

1. **K.M. Kavi** and H.G. Cragon. "Quest for an 'Ideal" machine language", *Proc. of intl. wksp. on HLL comp. arch.,* May 27-29, 1980, Ft. Lauderdale, FL., pp. 33-39.

Other technical publications (Invited, abstracts or partially refereed publications)

24. T. Janjusic and K. Kavi. "Gleipnir: a memory profiling and tracing tool", *ACM SIGARCH Computer Architecture News,* Vol. 41, No. 4, Sept 2013, pp 8-12.

23. M. Aborizka, M. Kouta, **K. Kavi** and S. Saad. "An intelligent agent based digital currency scheme", Proceedings of the 5ᵗʰ International Business Information Management Association (IBIMA) *Conference on The Internet and Information Technology in Modern Organizations*, Dec. 13-15, 2005, Cairo, Egypt.

22. L. Song and **K.Kavi**. "What can we gain by unfolding loops?" ACM SIGPLAN Notices, Vol. 39, N0. 2, Feb 2004, pp 26-33.

21. E. Jovanov, D. Raskovic, and **K. Kavi,** "Hierarchical Digital Signal Processing," in *Proc. of 19th Annual Houston Conference on Biomedical Engineering Research, HSEMB* 2001, The University of Houston Hilton Conference Center, Houston, TX, USA, February 8-9, 2001

20. E. Jovanov, J. Price, D. Raskovic, **K. Kavi**, T. Martin, and R. Adhami, "Wireless Personal Area Networks in Telemedical Environment," in *Proc. of 2000 IEEE EMBS International Conference on Information Technology Applications in Biomedicine, (ITAB-ITIS 2000*), Key Bridge Marriott Hotel, Arlington, Virginia, USA, November 9-10, 2000

19. S.R. Taylor and **K.M. Kavi**. "A comparison of multithreaded implementations", *Yale multithreaded programming workshop*, Yale University, New Haven, CT, June 8-9, 1998, available at http://arch.cs.yale.edu/ymp-workshop/papers/

18. **K.M. Kavi** and W.E. Cohen. "Memory latency and thread migration challenges for distributed shared memory systems: A position paper*", Proc. of 31st Hawaii International Conference on System Sciences (HICSS-31*), Jan. 1998.

17. **K.M. Kavi**. "Branch folding for conditional branches", *IEEE CS Technical Committee on Computer Architecture (TCCA) Newsletter*, Dec. 1997, pp 4-7.

16. **K.M. Kavi** and A.R. Hurson. "Multi-Threaded Systems: Issues, Solutions And Future - Introduction to the Minitrack on Multithreaded Systems, *Proceedings of the 30th Hawaii International Conference on System Sciences (HICSS-30),* Jan. 1997, Maui, Hawaii.

15. **K. M. Kavi**, I. Lee and N. Serbedzija. "Distributed Real-Time Systems: An Introduction to the Minitrack", *Proceedings of the 29th Hawaii International Conference on System Sciences (HICSS-29)*, Jan. 1996, Maui, Hawaii.

14. F.T. Sheldon and **K.M. Kavi**. "Linking software failure behavior to specification characteristics", *Proceedings of 4th International Workshop on Evaluation Techniques for Dependable Systems*, Oct. 1995, San Antonio, TX.

13. F.T. Sheldon and **K.M. Kav**i. "Linking software failure behavior to specification characteristics.", *Record of 3rd IEEE International Workshop on integrating error models with fault injection*, Annapolis, MD, April 25-26, 1994.

12. **K.M. Kavi**, B. Wyatt, B. Shirazi, and A.R. Hurson . "Evaluation of dynamic inheritance in distributed environments. *Proc. of 1994 ASME European Joint Conference on Engineering Systems Design and Analysis*, (ESDA-94), London, England, July 4-7, 1994, ASME, NY, Vol. 5, pp. 525-532.

11. P. Shanmugam, S. Andhare and **K.M. Kavi**. "Justifying cache memories for dataflow architectures", *Workshop on fine-grained massively parallel coordination, at International Symposium on Computer Architecture*, May 15-20, 1993, San Diego, CA.

10. M.C. Measures and **K.M. Kavi**. "An Hierarchical Model for Object-Oriented Systems", *Proc. of 1992 ASME European Joint Conference on Engineering Systems Design and Analysis*, Istanbul, Turkey, June 29 - July 3, 1993, pp. Vol. 4 67-72.

9. B.P. Weems, **K.M. Kavi** and S.M. Yang. "HIPP: An honors program in parallel processing", *Proceedings of 1992 ASEE National Conference,* pp 428-432.

8. F.T. Sheldon and **K.M. Kavi**. "A model for estimating software reliability based on residual defects", *Proc. of IEEE Midcon'90,* Dallas, Texas, Sept. 11-13, 1990, pp 22-25

7. F.T. Sheldon, **K.M. Kavi** and R. Reese. "Software reliability modeling: A case study", *Proceedings of General Dynamics Software Technology Conference*, pp 29: 1-14, April 1991, San Diego, CA.

6. C.F. Shelor and **K.M. Kavi**. "Data tags or partitioned memory?", *Proc. of IEEE Midcon'90,* Dallas, Texas, Sept. 11-13, 1990.

5. F.T. Sheldon and **K.M. Kavi**. "An evaluation of two new advanced microprocessor architectures", *Proc. of IEEE Metrocon 90,* Arlington, Feb. 17, 1990.

4. **K.M. Kavi** and K. Krishnamohan. "Architecture quality", *SIGOPS Operating Systems Reviews,* Jan. 1984.

3. **K.M. Kavi.** "Innovative architectures and commercial computers: summary of panel discussion at NCC 1981, *SIGARCH Computer Architecture News,* Aug. 1981.

2. **K.M. Kavi**. "Semantics of an algorithm"*, SIGARCH Computer Architecture News,* Dec. 1980.

1. **K.M. Kavi** and D.J. Frailey. "Quantification of architecture using software science", *SIGARCH Computer Architecture News*, Oct. 1979.

Ph.D. Dissertation

The design of architectures to reduce semantic gap, Southern Methodist University, Dallas, Texas, Aug. 1980, Major Professor: Harvey G. Cragon.

Invited talks and presentations:

96. Computer Systems Security Research at UNT, Invited Talk, NIST, Gaithersburg, MD, United States of America.

95. Computer Systems Security Research at UNT, Invited Talk, NOBLIS, Reston, Virginia, United States of America.

94. Security Challenges for IoT," Panel Presentation, UNT College of Engineering, Allen, Texas, United States of America. 2017.

93. Computer Systems Research at UNT," Invited Talk, University of Georgia, Athens Georgia, United States of America. 2017.

92. Challenges for Building Applications and Services for Smart Devices," Panel Presentation, Rome, Italy, Italy. 2016

91. Computer Systems Research at UNT, Jet Propulsion Laboratory, Pasadena, CA, June 23, 2016

90. Systems Security Research at UNT, Boeing Research, Huntington Beach, CA, June 22, 2016

89. Emerging Memory and Processor Technologies, 6th International Conference on Computing, Communications and Networking Technologies (ICCCNT-2015), July 13, 2015

88. Computer Systems Research at UNT, Computer Science and Engineering Department, National Taiwan University, Taipei, Taiwan, Dec. 19, 2014.

87. Computer Systems Research at UNT, Dept of Computer Science, National Taichung University of Education, Taichung, Taiwan, Dec. 22, 2014

86. Computer Systems Research at UNT, AMD, Austin, Texas, May 12, 2014

85. Computer Systems Research at UNT, Barcelona Supercomputer Center, October 14, 2014

84. Computer Systems Research at UNT, Department of Information Engineering, University of Siena, Italy, July 2013

83. Computer Systems Research at UNT, Department of Electrical Engineering, Dresden Technical University July 2013

82. Emerging Technologies for 3-D stacked DRAMs, Invited speaker, IEEE Metrocon, Arlington, Texas, October 6, 2011.

81. Memory optimizations research at UNT, Dept. of CS, Missouri University of Science and Technology, Rolla, Missouri, April 19, 2011.

80. Memory optimizations research at UNT, AMD, Austin, Feb 21, 2011.

79. Memory optimizations research at UNT, ECE Department, National Dong-Hwa University, Hualien, Taiwan, May 21, 2010

78. Memory optimizations research at UNT, Dept of EE, Sen-Yat Sun University, Kaohsuing Taiwan, April 20, 2010

77. Memory optimizations research at UNT, Academia Sinica, Taipei, Taiwan, April 16, 2010

76. Memory optimizations research at UNT, CSE and ECE Departments, National Taiwan University, Taipei, Taiwan, April 16, 2010

75. Scheduled Dataflow Architecture, Dept of CSIE National Chiao-Tung University, Hsinchu, Taiwan, April 13, 2010

74. Memory optimizations research at UNT, CSE Department, National Tsing-Hua University, Hsinchu, Taiwan, March 17, 2010

73. Memory optimizations research at UNT, CSE Department, National Chiao-Tung University, Hsinchu, Taiwan, March 10, 2010

72. Memory optimizations research at UNT, ECE Department, National Cheng-Kung University, Tainan, Taiwan, March 4, 2010

71. Research in High-Performance Computing at the Net-Centric Software and Systems Consortium, Computational Sciences and Engineering Division, Oak Ridge National Laboratory, Oak Ridge, TN, Oct. 13, 2008.

70. Transactional Memories: An Overview. Department of Computer Science, University of Cyprus, June 9, 2008.

69. Transactional Memories: An Overview. College of Computing, National Chiao-Tung University, Hsinchu, Taiwan, Dec. 20, 2007.

68. Transactional Memories: An Overview. Dept of CS, Tunghai University, Taichung, Taiwan, Dec. 18, 2007.

67. Transactional Memories: An Overview. College of Computing, National Cheng-Kung University, Tainan, Taiwan, Dec. 17, 2007.

66. Is it time to revive dataflow as a model of parallel computing?, Department of Computer Science, Tunghai University, Taichung, Taiwan, Dec. 18, 2006.

65. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, Electrical and Computer Engineering Department, Dong-Hwa University, Huilian, Taiwan December 15, 2006

64. Computer Systems Research, Computer Science and Information Engineering Department, National Chiao-Tung University, Hsinchu, Taiwan, December 13, 2006.

63. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, Electrical and Computer Engineering Department, National Taiwan University, Taipei, Taiwan December 12, 2006

62. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, IEEE CS Distinguished Visitor Seminar, CS Department, University of North Florida, Nov. 29, 2006.

61. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, IEEE CS Distinguished Visitor Seminar, Department of CSE, Penn State University, October 19, 2006.

Invited talks and presentations (continued):

60. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, IEEE CS Distinguished Visitor Seminar, Long Island Computer Society Chapter, October 18, 2006.
59. Is it time to revive dataflow as a model of parallel computing?, Keynote speech, ISCA 19th International Conference on Parallel and Distributed Computing Systems (PDCS-2006), San Francisco, CA, Sept. 20, 2006.
58. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, IEEE CS Distinguished Visitor Seminar, Auburn University, Auburn, Alabama, April 5, 2006.
57. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, IEEE CS Distinguished Visitor Seminar, University of Alabama in Huntsville, April 3, 2006.
56. Computer Systems Research at UNT, UNT CSCE 5020- Research Seminar for Graduate Students, March 8, 2006.
55. Billion Transistor Chips: How to garner the silicon real-estate for improved performance, Center for the Development of Advanced Computers (C-DAC), Hyderabad, India, Dec. 17, 2005
54. Computer Systems Research at UNT. UNT IEEE chapter, October 27, 2004
53. Scheduled Dataflow: A decoupled non-blocking multithreaded architecture, Department of Computer and Information Technology, University of Pisa, Pisa, Italy, Sept. 28, 2004.
52. Is it time to revive dataflow architecture?, Invited seminar at the Department of Computer Science and Information Engineering, Fu Jen Catholic University, Taipei, Taiwan, May 19, 2004.
51. Is it time to revive dataflow architecture? Invited seminar at the Department of Computer Science and Information Engineering, National Chiao Tung University, Hsinchu, Taiwan, May 18, 2004.
50. A case for agent-oriented software engineering. Invited seminar at the Department of Computer Science and Information Engineering, National Chiao Tung University, Hsinchu, Taiwan, May 13, 2004
49. Is it time to revive dataflow architecture?, Keynote speech at the 11th International Conference on Advanced Computing (ADCOM-2003), Coimbatore, India, Dec. 18, 2003.
48. Is it time to revive dataflow architecture?, XII Congress of APSMS GP Sharma Memorial Lecture, Osmania University, Hyderabad, Inda, Dec. 13, 2003
47. Scheduled Dataflow: A decoupled non-blocking multithreaded architecture, Department of Computer Science and Engineering, Southern Methodist University, Dallas, Texas, Oct15, 2003.
46. Scheduled Dataflow: A decoupled non-blocking multithreaded architecture, School of Electrical Engineering and Computer Sciences, Oregon State University, Corvallis, OR, May 5, 2003.
45. Scheduled Dataflow: A decoupled non-blocking multithreaded architecture, Department of Computer Science, The University of Texas at Dallas, February 8, 2002.
44. Architecture and Systems Research at UAH, Department of Computer Science, The University of North Texas, Feb. 15, 2001
43. Evaluation of Scheduled Dataflow Architecture, School of Electrical Engineering and Computer Science, University of Central Florida, Florida, February 8, 2001.
42. Scheduled dataflow: A decoupled, non-blocking multithreaded architecture, Dept of Computer Science and Engineering, University of Minnesota, Minneapolis, MN, Aug. 21, 2000.
41. Scheduled Dataflow: A synchronous execution paradigm for dataflow, Dept. of Electrical and Computer Engineering, University of New Castle, New Castle, Australia, July 1, 1999.
40. Scheduled Dataflow: A synchronous execution paradigm for dataflow, Dept. of Computer Science and Engineering, University of New South Wales, Sydney, Australia, June 28, 1999.
39. Scheduled Dataflow: A synchronous execution paradigm for dataflow, Dept. of Computer Science and Software Engineering, Monash University, Caulfield, Victoria, Australia, June 21, 1999
38. Multithreading: Languages, Systems and Architectures, Dept. of Electrical and Computer Engineering, University of Alabama in Birmingham, Birmingham, AL, March 22, 1999.
37. Multithreading: Languages, Systems and Architectures, Dept. of Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, March 22, 1999.
36. Scheduled Dataflow: A synchronous execution paradigm for dataflow, Dept. of Computer Science, Florida State University, Tallahassee, FL, March 5, 1999.
35. Multithreading and Scheduled Dataflow. Sparta Inc., International Systems Operations (INSO), Huntsville, AL, March 3, 1999.

Invited talks and presentations (continued):

34. Multithreading: Languages, Systems and Architectures, Dept. of Computer Science, University of South Alabama, Mobile, Alabama, Feb. 22, 1999.
33. Scheduled Dataflow: A synchronous execution paradigm for dataflow, University of Tennessee Space Institute, Tallahoma, TN, Feb. 18, 1999.
32. Multithreading: Languages, Systems and Architectures, Dept. of Electrical and Computer Engineering, Auburn University, Auburn, Alabama Jan. 15, 1999.
31. Optimizing for web-based programming - Plenary Talk at the INFOFEST-98, (Budva, Montenegro, Yugoslavia), Sept. 28, 1998.
30. A non-blocking multi-threaded architecture, University of Karlsruhe, Germany, Sept 21, 1998.
29. Multithreaded Programming. Issues and Solutions, University of Venice, Italy, Sept. 17, 1998.
28. Scheduled Dataflow: A synchronous execution paradigm for dataflow, University of Pisa, Italy, Sept. 15, 1998.
27. Dataflow and multithreaded Architectures, Dept. Of CIS, New Jersey Institute of Technology, Feb. 19, 1998.
26. Cache memories for multithreaded dataflow systems, Dept. Of CSE, Penn State University, Jan. 22, 1998.
25. A non-blocking multithreaded architecture, Dept. Of Computer Science, Fu-Jen Catholic University, Taipei, Taiwan, Dec. 23, 1997
24. Multithreaded Systems: Languages and Architecture, Dept. Of Computer Science, Chung-Chen University, Hsinchu, Taiwan, Dec. 22, 1997.
23. Cache memories for multithreaded dataflow systems. Dept of Computer and Information Science and Engineering, National Chiao-Tung University, Hsinchu, Taiwan, Dec. 19, 1997.
22. Multithreaded Systems: Languages and Architecture, Dept. Of Computer Science, The University of Alabama in Huntsville, Nov. 14, 1997.
21. Cache memories for multithreaded dataflow systems, Dept. of Computer Science, New Mexico State University, Las Cruces, NM, , Nov. 6, 1995
20. Cache memories for multithreaded dataflow systems, Dept. of Computer Science, Florida Institute of Technology, May 5, 1995
19. Stochastic Properties with CSP Specifications, Dept. of Electrical Engineering and Computer Science, University of Illinois at Chicago, March 13, 1995.
18. Cache memories for multithreaded dataflow systems, Dept. of Computer Science, Washington University, St. Louis, MO, Feb. 3, 1995.
17. Stochastic Properties with CSP Specifications, Dept. of Computer Science, Oklahoma State University, Stillwater, OK, Feb. 2, 1995
16. Stochastic Properties with CSP Specifications, Dept. of Computer Science, Wright State University, Dayton, OH, Feb. 1, 1995
15. Cache memories for multithreaded dataflow systems, Brown Bag Lunch Seminar, CISE, NSF, Jan. 31, 1995.
14. What types of papers should we be writing?, A panel participation at the ICPADS'94, Hsinchu, Taiwan, Dec. 20, 1994.
13. Parallel Processing and NSF, Dept. of Computer Science, Mary Washington College, Fredricksberg, VA, Nov. 16, 1993.
12. A survey of fault-tolerant systems and techniques, Section 347 Seminar, Jet Propulsion Laboratories, Pasadena, CA, Aug. 19, 1992.
11. Evaluation of object based computer architecture, Dept. of Computer Science, University of Central Florida, Orlando, April 18, 1991.
10. Dataflow graph models for reliability analysis. IEEE-CS Distinguished Lecture, Lawrence Livermore National Labs, Feb. 28, 1991.
9. Evaluation of object based computer architecture, First Symposium of the Computer Systems Engineering, Centro De Graduados Instituto Tecnologico De Nogales, Nogales, Mexico, October 5, 1990.
8. Dataflow graph models for reliability analysis. IEEE-CS Distinguished Lecture, University of North Texas, Denton, April 13, 1990.

7. Evaluation of object-oriented computer architecture. IEEE-CS Distinguished Lecture, Baylor University, Waco, Texas, March 28, 1990.
6. Dataflow graph models for specification and analysis of concurrent processing system, IEEE-CS Distinguished Lecture, Penn. State University, March 21, 1990.
5. Scheduling and Controlling tasks using reservation tables, Seminar at TI-CSC, Dallas, Texas, Nov. 8, 1988.
4. Language-directed and object-oriented computer architecture. IEEE CS Chapter tutorial, UTA Chapter, Apr. 16, 1988.
3. Object-oriented computer systems. Luncheon seminar, IEEE Dallas Chapter, Jan. 21, 1988.
2. SWARD: An object-oriented computer system. Luncheon seminar, Dept. of Computer Science, SMU, Dallas, Nov. 25, 1987
1. How can a computer architecture increase programmer productivity. Luncheon speech, DPMA regional conference, Ft. Worth., Apr. 25, 1984.

Short Courses and Tutorials:

17. Tutorial on Architectural Trends for High Performance Computing, Instructors: **K.M. Kavi**
   Half a day tutorial at the Eleventh International Conference on Advanced Computing and Communications (ADCOM-2003), Coimbatore, India, Dec. 17, 2003.
16. Tutorial on Architectural Trends for High Performance Computing, Instructors: **K.M. Kavi** and A.R. Hurson, Half Day tutorial at the 5ᵗʰ International Conference on Algorithms and Architectures for Parallel Processing (ICA3pp2k2), Beijing, Oct. 23, 2002.
15. Agent based software systems: Systems level issues (Instructors: **K.M. Kavi** and David Levine), Half Day tutorial at the 4th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP2000), Hong Kong, Dec. 11, 2000.
14. Agent based software systems: Systems level issues (Instructors: **K.M. Kavi** and David Levine), Half Day tutorial at the International Conference on Advanced Computing and Communications (ADCOM 2000), Cochin, India, Dec. 14, 2000
13. An introduction to multithreaded programming (Instructors: **K.M. Kavi** and David Levine), a one-day tutorial at the International Conference on Parallel and Distributed Computing Systems (PDCS'98), Los Vegas, Oct. 28-30, 1998.
12. Advanced Web-based and Network programming (Instructor: **K.M. Kavi**), a half day tutorial at the INFOFEST-98, Budva, Montenegro, Yugoslavia, Sept. 28-Oct 2, 1998.
11. An introduction to multithreaded programming (Instructor: **K.M. Kavi** and David Levine), a one-day tutorial at 5th annual conference on Advanced Computing, ADCOMP-97, Chennai, India, Dec. 15-17, 1997.
10. Introduction to programming in Ada-95 (Instructor: **K.M. Kavi**): A short course for Hughes; Feb. 27-March 28, 1997.
9. Introduction to programming in Ada-95 (Instructor: **K.M. Kavi**): A short course for Hughes; Sept. 19-Oct. 18, 1996.
8. Introduction to programming in Ada-95 (Instructors: **K.M. Kavi** and Dave Umbaugh). A short course for Hughes, July/Aug., 1996.
7. Formal methods for the specification and analysis of concurrent systems (Instructors: **K.M. Kavi** and Bill Buckles), 1993 International Conference on Parallel Processing, Aug. 20 ,1993, Lake Charles, IL.
6. Parallelism management: Synchronization, Scheduling and Load Balancing, (Instructors: Behrooz Shirazi and **K.M. Kavi**), Tutorial at the 4th IEEE Symp. on Parallel and Distributed Processing, Dec. 1, 1992, Arlington, Texas.
5. Parallelism management: Synchronization, Scheduling and Load Balancing, (Instructors: Behrooz Shirazi and **K.M. Kavi**), Tutorial at the 3rd IEEE Symp. on Parallel and Distributed Processing, Dec. 2, 1991, Dallas, Texas.
4. Parallel Processing (Instructors: **K.M. Kavi** and Behrooz Shirazi) a Short Course at UTA, May 28-29, 1991.
3. Advanced techniques in Fault-tolerant computing: New reliability models and fault-tolerance using object-based designs, (Instructor: **K.M. Kavi**) Short Course delivered at National Chaio Tung University, Hsinchu, Taiwan, ROC, July 17-22, 1989.

2. Capability-based computer architecture, (Instructor: **K.M. Kavi**), IBM-Educational tutorial, IBM-Thornwood, NY, March 16, 1988.
1. Language-directed and object-oriented computer architecture, (Instructor: **K.M. Kavi**), IEEE CS Chapter tutorial presentation, 1987 Atlanta software technology conference, Atlanta, Nov. 12, 1987.

Reports for industry:

3. **K.M. Kavi** and F.T. Sheldon. Formal specification of diagnostic software requirements, report for General Dynamics as a part of the Generic Integrated Maintenance Diagnostics (GIMADS), Sept. 1992.
2. B.D. Carroll and **K.M. Kavi**. "Reliability models for advanced fault-tolerant computer systems", Final Report., Motorola govt. electronics group, Phoenix, Az., Nov. 1986.
1. **K.M. Kavi** and B.D. Carroll. "Architectures for postal character recognizers", Final Report. Recognition Equipment, Inc., Dallas, Tx., Sept. 1984.

Departmental technical reports:

23. **K. M. Kavi,** H.Y. Youn and L. Alkalaj. "A survey of fault-tolerant systems and techniques", CSE TR 93-004, May 4, 1993.
22. B.G. Wyatt, **K. M. Kavi** and S.P. Hufnagle. "Parallelism in object oriented languages: A survey", CSE TR 92-001
21. M.C. Measures and **K.M. Kavi**. "An hierarchical model for object oriented systems", CSE TR 91-004, May 1991.
20. C.F. Shelor and **K.M. Kavi.** "CARDS: An Object-based Architecture for Reliable Distributed Processing", CSE TR 89-004 ; March 1989
19. **K.M. Kavi**, T.C. Lin and D.J. Chen. "A decomposition approach to reliability analysis of interconnection networks using stochastic dataflow graph models", CSE TR 89-003; March 1989.
18. T. Makphaibulchoke, **K.M. Kavi** and S.P. Hufnagle. "DISTIL: A specification and implementation language for distributed processing systems", CSE TR 89-001, Jan. 1989.
17. **K.M. Kavi,** R.M. Boyd and S.R. Amble. "DFDLS: a dataflow language based on graphical structure", CSE TR 86-003, Jan 1986.
16. **K.M. Kavi**, D.J. Chen and D.E. Williams. "Sward front-end system", CSE TN 85-001, May 1985.
15. **K.M. Kavi**, D.J. Chen and D.E. Williams. "Sward front-end system: The control machine (CM)", CSE TN 85-002, May 1985.
14. **K.M. Kavi**, D.J. Chen and D.E. Williams. "Sward front-end system: The maintenance machine (MM)", CSE TN 85-003, May 1985.
13. D.J. Chen and **K.M. Kavi**. "The implementation details, qualitative evaluation and proposed enhancements of SWARD prototype computer system", CSE TR 85-006, Aug. 1985.
12. **K.M. Kavi**, U.N. Bhat and B.P. Buckles: "Reliability analysis of dataflow graph models", CSE TR 85-004, May 1985.
11. **K.M. Kavi,** B.P. Buckles and U.N. Bhat. "A formal definition of dataflow graph models", CSE TR 85-003, May 1985.
10. **K.M. Kavi**, B.P. Buckles and U.N. Bhat. "Isomorphisms between Petri nets and dataflow graphs", CSE TR 85-002, April 1985.
9. D.E. Williams and **K.M. Kavi**. "The SWARD environment at UTA", CSE TN 85-001, Jan 1985.
8. **K.M. Kavi**, B.P. Buckles and U.N. Bhat. "A formal definition of dataflow graph models", CSE TR 84-006, Nov. 1984.
7. K. Krishnamohan and **K.M. Kavi**. "Architectural quality: a review of desirable architectural characteristics", CSE TR 84-002, July 1984.
6. **K.M. Kavi** and U.N. Bhat. "Reliability models for dataflow", CSE TR 83-001, Jan. 1983.
5. **K.M. Kavi.** "DFDLS: A dataflow simulator for digital systems", CSE TR 83-002, Jan. 1983.
4. **K.M. Kavi.** "Innovative architectures and commercial computers", TR 81-3-2, Dept. of Comp. Sci., USL, June 1981.
3. **K.M. Kavi.,** et. al. "HLL architectures: pitfalls and predilections", TR 81-3-3, Dept. of Comp. Sci., USL, July 1981.

2. **K.M. Kavi.** "Classification of Markov chains using graph algorithms", CSE 7912, Dept. of Comp. Sci., SMU, Aug. 1979. *Also included in Applied Stochastic Processes by U.N. Bhat, 2nd Ed., John Wiley & Sons., 1984.*
1. **K.M. Kavi** and T.R.N. Rao. "Encoding and decoding algorithms for m-out-of-n codes, CS 7805, Dept. of Comp. Sci., SMU, Apr. 1978.

Consulting:

8. Sidley Austin Brown & Wood. Sept 2003 – 2006. Help with patent litigation related to computer architecture, cache memories, flash memories, JTAG, etc.
7. SigmaTech, Inc., Huntsville, AL. May 2000-Dec. 2001. Developing InteractivePro.
6. Computing Technologies, San Jose, CA, Sept. 1996-Dec. 1996, "Application of PVM for power-plant simulation code".
5. Jet Propulsion Laboratories, Pasadena, CA, Dec. 1992 - May 1993. "Evaluation of MAX/Hyphos Dataflow System.
4. General Dynamics, Ft Worth Division. May-Sept. 1992. "Formal Methods for Integrated Diagnostics Software Design".
3. Motorola, Tempe, AZ. July-Dec. 1986. Preliminary investigation of advanced fault tolerant computers-advanced concepts
2. Communications Enterprises, Inc., Dallas. April, Sept.-Nov. 1984. Developed and taught a short course on Computer Networks.
1. Recognition Equipment, Inc., Dallas. July-Sept. 1984. Surveyed and developed architectures for automatic postal mail sorting systems.

Funding Activities

Funded:

56. NSF MRI. "MRl Collaborative: Development of ESPRIT - Emerging systems' performance and energy evaluation instruments and testbench
    PI: K. Kavi, Co-PI: S. Fu and H. Zhang.
    Oct. 1, 2018 -Sept. 30, 2020, **$ 300,000** (plus **$128K** from UNT cost share).

55. ARFL Dynamic Multi-Group Secure Data Sharing Scheme For Cloud
    PI: K. Kavi
    Aug. 1, 2017 – Dec. 2018, **$50,000**

54. NSF CISE/IIS: RAPID SCH: A framework for epidemic contact tracing using multi-contextual information
    PIs: **K. Kavi**
    Dec. 15, 2014 - Dec. 14, 2015, **$99,965**

53. REU/REV Supplements to Phase II I/UCRC Net-centric and Cloud Software and Systems
    PI: **Krishna Kavi**
    May 01, 2015-April 2019**: $16,000**

52. NSF ENG/IIP: Phase II I/UCRC Net-centric and Cloud Software and Systems
    PI: **Krishna Kavi**
    April 15, 2014 - April 14, 2019, **$ 1,022,179,** (and $175,000 per year from industrial memberships)

51. NSF ENG. Innovative MD: IUCRC Center for Net-Centric IUCRC
    PI: **Krishna Kavi**
    Sept 1, 2013 - Aug. 31, 2016, **$573,622.**

50. NSF IIP Fundamental Research Program, "Risk assessment techniques for off-line and on-line security evaluation of cloud computing"
    PIs. **Krishna Kavi**
    June 1, 2013 - May 31, 2015**; $89,468.**

49. NSF ENG/IIP: Fundamental Research Program: Sensor fusion research for Net-Centric Applications.
    PI: **Krishna Kavi** (with Andreas Spanias of Arizona State University)
    Co-PI: Mahadevan Gomathisankaran
    Sept 1, 2012-Aug 2014; **$198,300**

48. International travel supplement
    PI: **Krishna Kavi**,
    May 2012-May 2013, **$15,120**

47. NSF CISE/CCF SHF EAGER Proposal: Compiler and architectural techniques to minimize writebacks
    PI: Krishna Kavi
    June 2012-May 2014, Amount Funded: **$74,860**

46. NSF ENG IIP Fundamental Research Program. Collaborative Research – QoS Assured Service Composition and Execution.
    PI: Krishna Kavi
    October 1, 2011 – Sept 30, 2013, NSF Funds**: $98, 295**

45. NSF MRI (Subcontract from SMU and UTD). MRI Consortium: Development of Instrumentation for Measuring the Dependability and Quality of Cloud Computing Systems
    PI: **Krishna Kavi** (with Farokh Bastani, UTD and Jeff Tian, SMU)
    Sept. 1, 2011 – Aug. 31, 2014. NSF Funds: **$191,320** (total project amount: $977,020),
    UNT Cost Share: $87,542

44. Unrestricted Research Award from Advanced Micro Devices (AMD): Development of tools to analyze memory accesses in multicore processors
    PI: **Krishna Kavi**,
    Jan 2011 – May 2014, **$190,000**

43. REU/REV supplements for NSF IIP Industry/University Cooperative Research Center on Net-Centric Software and Systems
    PI: **Krishna Kavi**,

May 2009 - Feb 2014: Total supplements: **$82,000**

42. NSF IIP Industry/University Cooperative Research Center on Net-Centric Software and Systems
    PI: **Krishna Kavi**,
    Feb 2009 to Feb 2014. Total NSF funding: **$693,645**
    Industrial membership: **$750,000**

41. Texas Workforce Development. Texas Youth in Technology Grant Program at UNT
    PIs: Robert Akl, **Krishna Kavi** and David Keathly
    Jan 2009-Dec.2010, **$150,000**

40. NSF CISE CNS-0821736: MRI: Development of a Flexible Instrument and Tools for Experimental Research in Next-Generation 9-1-1 Services, Sept. 1, 2008-Aug. 31, 2011, **$416,000**
    PI: Ram Dantu, Co-PIs: **K.M. Kavi** and Partha Guturu (and Columbia and Texas A&M)

39. NSF CISE-CNS-0751205: "CRI: IAD: A Testbed for Research and Development of Next Generation 9-1-1 Services", May 2008-May2012, **$707,000**
    PI: Ram Dantu, Co-PIs: **K.M. Kavi** and Partha Guturu (and Columbia and Texas A&M)

38. Texas Workforce Commission Youth in Technology Grant Program. Jan. 2008 – Dec. 2009, **$132,514**
    PIs: R.Akl, **K.M. Kavi** and D. Keathly

37. NSF IIP-0733972. IUCRC Planning Grant to form NetCentric Consortium, Sept. 1, 2007 – Aug. 31, 2008, **$10,000**
    PI: **K.M. Kavi**

36. KJV Inc. (subcontract on a US Navy SPAWAR contract): NCCS High Assurance Project, June 1, 2007-May 31, 2008, **$20,000**
    PI: **K.M. Kavi**

35. NSF OISE-0649748. Planning Visit to Taiwan, Feb 2007 –Jan 2008, **$8,437**
    PI: **K.M. Kavi**

34. Texas Workforce Development (TWD) Recruiting and Retention Strategies in CS at UNT, May 1, 2005-April 31, 2007, **$125,322**
    Principal Investigators: R. Akl, D. Keathly, **K.M. Kavi**, P. Sweany, K. Swigger, S. Tate

33. NSF CNS-0532686-Support for SCPES-2005 Workshop **$12,500**
    Principal Investigators: Phil Sweany and **K.M. Kavi**

32. Texas Workforce Development (Subcontract from UT-Austin), Jan. 2005-Dec. 2005, **$46,253**
    Principal Investigator. **K.M. Kavi**
    Title. Improving Retention of Computer Science students at UNT.

31. NSF-Research Resources (RR-0222628) (NSF **$120K**, UNT Match $60K), $180,000
    Principal Investigator: **K.M. Kavi,** Co-PIs: A. Mikler, K. Swigger and A. Wilson
     Title: Computational Science and Engineering: Intelligent Information Acquisition
         and Management Infrastructure

30. Texas Workforce Development (TETC). Jan 2003-Aug. 2004, **$83,322**
    Principal Investigator. R.T. Jacob, **Co-PI. K.M. Kavi**
    Title. Improving Retention of Computer Science students at UNT.

29. NSF-ITR Program (Award #: CCR-0117263)
    Amount **$450K** (UAH/UNT Share $208K).
    Principal Investigators: **K.M. Kavi** (jointly with Ron Cytron and Mark Franklin of
         Washington University in St. Louis, MO).
    Title: Intelligent memory systems for object-oriented programs
    Period: Sept. 1, 2000 – Aug. 31, 2003

28. NSF SGER (Digital Govt. Program, Award # EIA0087076)
    Amount Funded: **$62,602**
    Principal Investigator: **K.M. Kavi**
    Title: Exploratory research for correlating and data mining flight data from NTSB accident
         investigations.
    Period: Sept. 1, 2000 – Aug. 31, 2001

27. Intergraph, Huntsville, Alabama.
    Amount Funded: **$25,000** (Cash: $15,000, Equipment: $10,000)
    Principal Investigator: **K.M. Kavi**
    Title: Support for multithreaded programming of image processing

26. NSF Research Experience for Undergraduates-Site (EIA-9820147)

Amount Funded: **$135,278** +$10K supplement from NSF and $15,000 matching from UAH
Principal Investigators: **K. M. Kavi** and W. Cohen
Title: Performance Measurement and Evaluation of Multithreaded Systems
Period: June 1, 1999-May31,2002

25. NSF CISE Postdoctoral Research (EIA-9805216)
Amount Funded: NSF **$65,880**, UAH Matching: $50,000
Principal Investigator: **K. M. Kavi**
Title: Experimental research for the evaluation of multithreaded architectures
Period: Feb. 1, 1999 – Jan. 31, 2001

24. NSF-CDA. Research Instrumentation (EIA-9729889)
Amount Funded: NSF **$55,000,** UAH matching: $60,000
Principal Investigators: W. Cohen, **K. M. Kavi** and E. Wells
Title: Measurement and Instrumentation of Multithreaded Systems
Period: Feb. 15, 1998 - Feb. 14, 2001.

23. NSF-CDA - Equipment Supplement (MIP 9622593; MIP-9796310/CCR-9796310)
Amount Funded: **$19,582**
Principal Investigator: **K. M. Kavi**
Title: Design of a Distributed Computing Environment Using Microkernels

22. NSF -CCR - Support for a workshop (CCR-9714873)
Amount Funded**: $10,000**
Principal Investigator: **K. M. Kavi**
Title: Workshop on New challenges and directions for systems research
             (July 31-Aug. 1, 1997, St. Louis,. MO).

21. NSF-ILI (Instrumentation and Laboratory Improvement) (DUE-9650119)
Amount Funded: **$81,500** from NSF, and $64,800 matching from UTA
Principal Investigators: D. Cook **K. M. Kavi** and B. Shirazi
Title: A Micro-Kernel based Operating Systems Laboratory
Period: Aug. 1, 1996 - July 31, 1999

20. NSF - MIPS Micro Systems Architecture (MIP-9796310/CCR-9796310)
Amount Funded: **$382,857**
Principal Investigator: **K. M. Kavi**
Title: Investigation multithreaded dataflow and hybrid architectures
Period: June 1, 1996 - May 31, 2000

19 . NSF- CISE Research Instrumentation (CDA-9529561)
Amount Funded: **$62K** from NSF, $30K from UTA
Principal Investigators: D. J. Cook, **K. M. Kavi** and B. Shirazi
Title: Design of distributed computing environment using PowerPC microkernel
Period: March 1, 1996 - Feb. 28, 1999

18 . NSF - Research Experience for Undergraduates Site (CDA-9531535)
Amount Funded: $113,690
Principal Investigators: B. Shirazi and **K. M. Kavi**
Title: Research Experience for Undergraduates in Software Tools for Concurrent Programming
Period: June 1, 1996 - May 31, 1999

17. Tarek Computers
Amount Funded: $15,000
Principal Investigators**: K. M. Kavi** and Hee Yong Youn
Title: Parallelization of VERILOG logic simulation.
Period: March. 1, 1996 - Aug. 31, 1996

16. Texas Advanced Technology Program
Amount Funded: $206,000;
Principal Investigator: B. Shirazi
Co-Investigator: **K. M. Kavi**
Title: PARSA: A parallel processing environment
Period: Jan. 1, 1996 - Dec. 31, 1997

15. National Science Foundation (NSF)
Amount Funded: $87,833; Duration: 12 months

Start Date: Sept. 1, 1994
Principal Investigator: **K. M. Kavi**
Title: IPA Mobility Agreement
Period: Sept. 1, 1994 - Aug. 31, 1994

14. International Computing Technologies (NSF-SBIR subcontract)
    Amount Funded: $11,025; Duration: 6 months
    Principal Investigator: **K. M. Kavi**
        (Managed by Behrooz Shirazi due to my NSF appointment)
    Title: Study of parallel power plant simulator
    Period: March 1, 1994 - Dec. 31, 1994.

13. National Science Foundation (NSF)
    Amount Funded: $84,124
    Principal Investigator: **K. M. Kavi**
    Title: IPA Mobility Agreement
    Period: Sept. 1, 1993 - Aug. 31, 1994.

12. NSF-Research Experience for Undergraduates.
    Title: Software Tools for Parallel Program Development and Assessment
    Principal Investigators: B. Shirazi, and **K. M. Kavi**
    Amount Funded: $119,375
    Period: June 1, 1993 - May 31, 1996

11. NASA Langley Research Center.
    Amount Funded: $66000;
    Title: Graduate Fellowship (for F.T. Sheldon)
    Principal Investigator: **K. M. Kavi**
    Period: Jan. 01, 1993 - Dec. 31, 1995

10. General Dynamics, Ft Worth Division.
    Title: Formal Methods for Integrated Diagnostics Software Design
    Principal Investigator: **K. M. Kavi**
    Amount Funded: $22,000
    Period: Jan. 1, 1992 - Dec. 31, 1992

9. NSF-Instrumentation and Laboratory Improvement
    Title: Undergraduate Honors Program in Parallel Processing (HIPP)
    Principal Investigators: B. P. Weems and **K. M. Kavi**
    Amount Funded: $78,318 UTA Matching funds: $136,419
    Period: Feb. 1, 1991 - Jan. 31, 1994

8. State of Texas Coordinating Board - Advanced Technology Program
    Title: The design of very high-performance object-oriented computer systems.
    Principal investigators: **K. M. Kavi** and S. P. Hufnagle
    Amount Funded: $195,025
    Period: Jan. 1, 1990 - Dec. 1991

7. State of Texas Coordinating Board - Advanced Research Program
    Title: Analysis of fault-tolerant computers using dataflow graphs.
    Principal Investigator: **K. M. Kavi**
    Co-Investigator: B.D. Carroll
    Amount Funded: $82,676
    Period: June 1, 1988 - May 31, 1990.

6. NASA-Ames Research Center. Feb 1984 - Mar. 1985.
    Amount funded: $ 32,685.
    Principal Investigator: **K. M. Kavi**
    Purpose: To develop reliability models for dataflow and demand driven computer systems.

5. UTA Graduate School ORF, Sept. 1983-May 1984.
    Amount funded: $3,924
    Principal Investigator: **K. M. Kavi**
    Purpose: To study quantitative and qualitative characteristics of computer architecture.

4. UTA Graduate School ORF, Summer 1984.
    Amount funded: One month summer salary ($2,500)

Principal Investigator: **K. M. Kavi**

Purpose: To perform preliminary investigation of software reliability using information theory and software science.

3. IBM Equipment Gift. July 1983.

Amount funded: IBM donated SWARD to UTA

Principal Investigator: **K. M. Kavi**

Purpose: To debug and test SWARD.

2. NASA-Langley Research Center, May 1982-Dec. 1983

Amount funded: $93,761 (UTA share: $47,328)

Principal Investigator: **K. M. Kavi**

Co-Principal Investigator: T.R.N. Rao (USL)

Purpose: To model ultrareliable avionics computers using dataflow graphs.

1. Texas Instruments, May 1981-Apr. 1982.

Amount funded: $50,000

Principal Investigator: B.D. Shriver (USL)

Co-Investigator: **K. M. Kavi**

Purpose: To develop the kernel of a distributed operating systems.

Proposals under review

1. NSF: Core Programs: SaTC: TTP: Small: Cockatoo-a wholistic framework and suite of tools for security threat assessment and mitigation
PI: K. Kavi.
Funding Requested: $496,765
Requested Start Date: May 1, 2019

2. NSF REU site: REU Site: Optimizing emerging applications including Deep Learning and Big Data Analytics with GPU and FPGA accelerators
PI: R. Pottathuparambil, Co-PI: K. Kavi
Funding Requested: $350,362
Requested Start Date: June 1, 2019

Teaching and Student Supervision Activities

Graduate Student Supervision

Current Graduate Students

Post-Doctoral Researcher

Charles Shelor (2019-)

PhD's Students (as Major professor)

1. Mahzabeen Islam (started in Fall 2011)
   Title of Research: Memory organizations for 3D DRAM and PCM systems
   Expected Date of Completion: May 2019
2. Marko Scrbak. (started in Spring 2012)
   Title Energy models for 3D DRAM and PCM systems
   Expected Date of completion, May 2019
3. Shashank Adavally
   Title: Load/Store optimizations for 3D DRAMs
   Expected date of completion: May 2020
4. Rohit Yanambaka
   Title: Ontological approach to Security and Resilience of CPS systems
   Expected date of completion: May 2020
5. Fernando Mosquera
   Title: Domain specific architecture for Deep Learning using Processing in Memory
   Expected date of completion: Dec. 2020
6. Alex Weaver
   Title: Mitigating Side-channel attacks
   Expected date of completion: Dec. 2020

Graduated Students

Post-Doctoral Associates

At the University of North Texas (2001-)

4. Chen-Yu Lee (2013-2015)
   Current Position: NOAA
   Research Conducted: Ontologies for privacy and security

3. Litong Song (2002-2004)
   Current Position: Qualcomm, San Diego
   Research Conducted: Compiler optimizations for SDF

At the University of Alabama in Huntsville (1997-2001)

2. Roberto Giorgi (1999-2001)

Current Position: Department of Information Engineering, University of Siena, Siena, Italy
Research Conducted: Evaluation of SDF architecture
1. Hong-Shik Kim (1998-2000)
Current Position: Department of CSE, Chungnam National University, Daejeon, Korea
Research conducted: Decoupled Multithreaded Architectures, SDF simulator

Doctoral Students:

As a supervising professor

At the University of North Texas (2001-)

17. Patrick Kamongi, **Graduation Date**: December 2018
Dissertation Title: Ontology-based security threat assessment and mitigation for
cloud systems
Current Position: Post-doctoral researcher, NIST, MD
16. Charles F. Shelor. **Graduation Date:** August 2018
Dissertation title: Dataflow processing in memory achieves significant energy efficiency
Current Position: Consultant
15. Srujan Das Kotikela. **Graduation Date**: August 2018
Dissertation Title: Secure and trusted framework for virtualized workloads
Current Position: Qualys, Inc. CA
14. Chia-En (Paul) Lin, **Graduation Date**: May 2014
Dissertation Title: Performance engineering of software web services and distributed
software systems
Current Position: McDaniel College, MD
13. Tomislav Janjusic, **Graduation Date**: August 2013
Dissertation Title: A framework for evaluating dynamic memory allocators, including a new
equivalence class based allocator
Current Position: Mellanox, Inc
12. Wentong Li, **Graduation Date**: December 2007
Dissertation Title: High Performance Architecture using Speculative threads
and dynamic memory management hardware
Current Position: Airebroker, inc (previously at Yahoo, Admovate, Turn inc)
11. Afrin Naz, **Graduation Date**: August 2007
Dissertation Title: Split Data Caches
Current Position: Associate Professor, Dept of Computer Science, West Virginia University
10. Wenming Li, **Graduation Date**: August 2006
Dissertation Title: Group-EDF - a new approach and an efficient non-preemptive algorithm for
soft real-time systems
Current Position: Latitude Technologies, Texas
9. Mehran Rezaei, **Graduation Date**: May 2004
Dissertation Title: Intelligent memory manager: Towards improving the locality
behavior of allocation intensive applications.
Current Position: Associate Professor, University of Isfahan, Isfahan, Iran

At the University of Alabama in Huntsville (1997-2001)

8. Dejan Raskovic (co-Advisor with Dr. Emil Jovanov). Graduation Date: Aug. 2003
Dissertation Title: Personal Wireless Network for Medical Sensors
Current Position: Assoc. Professor, Dept of ECE, University of Alaska - Fairbanks
7. Mohamed Aborizka. **Graduation Date**: May 2002
Dissertation Title: A Framework for the Specification, Modeling and Analysis of Agent-Oriented
Real-Time Intelligent Software Systems

Current Position: Faculty Member, Arab Academy for Science and Technology, Egypt

6. Joseph Arul. **Graduation Date**: Aug. 2001

Dissertation Title: Design, Implementation and Evaluation of the Scheduled Dataflow Architecture

Current Position: Associate Professor, Computer Science, Fu Jen Catholic University, Taipei, Taiwan

At the University of Texas at Arlington (1982-1997)

5. Frederick T. Sheldon. **Graduation Date:** May. 1996

Scientist, Oak Ridge National Laboratory, Oak Ridge, TN

Dissertation Title: Specification and analysis of stochastic properties for concurrent systems expressed using CSP.

Received UTA Chapter Sigma Xi Doctoral Dissertation Award.

Current Position: Professor, University of Idaho

4. T. Makphaibulchoke, **Graduation Date:** May 1992

Dissertation Title: DISTIL: A specification, design and implementation language for reliable distributed computing

Current Position: Hewlett-Packard, Ft. Collins, Co

3. Akshay K. Deshpande, **Graduation Date**: Aug. 1990

Dissertation Title: A framework and a proof system for concurrent processes

Received UTA College of Engineering Outstanding Graduate Student Award, 1988.

Current Position: (diseased)

2. Deng-Jyi Chen, **Graduation Date:** May 1988

Dissertation Title: Stochastic dataflow graph models for reliability analysis of communication networks and computer systems.

Current Position: Diseased

1. Edward Walter Banios, **Graduation Date**: December 1986

Deceased

Dissertation Title: A conceptual model for interprocess message passing.

As a member of a PhD committee

1. Chen Yu Lee (Major Professor, D.J. Chen, NCTU, Taiwan, Graduated in Jan 2013)
2. Qiang Guan (Major Professor: Song Fu, UNT, Graduated in May 2014)
3. Satyajeet Nimgaonkar (Major Professor: Dr. M. Gomathisankaran, Graduated in Dec. 2015)
4. Ziming Zhang (Major Professor: Dr. Song Fu). Graduated in Dec. 2016
5. Joseph Wingbermuehle (Major Professor: Dr. Ron Cytron, Wash University in St. Louis), Graduated in Dec. 2016
6. Ian Brooks (Major Professor: Dr. Kathleen Swigger) Graduated in Aug. 2017

Masters:

At the University of North Texas (2001-)

Visiting MS students from Pisa

Domenico Pace (May 2013)
Stefano Pianelli (May 2013))
Giandomenico Pisano (May 2013
Giuseppe Regina (May 2013)

46. Arjun Gopalakrishan

"Probabilistic analysis of contracting ebola virus suing contextual intelligence".
45. Robert Tidwell, Dec. 2015
""An accelerometer-based gesture recognition system for tactical communications application"
44. Sagarika Adepu, May 2013
"QoS aware service composition"
43. Jared Sherman, Dec. 2012
42. Ademola Fawibe, Dec. 2011
41. Izu Nwachukwu (Thesis), May 2011
Programmable decoders for improving cache conflicts
40. Vinay Rmachandraprabhu (non-thesis), Dec. 2010
39. Yuhua Zhang (Thesis) May 2004.
Some optimizations to SDF Compiler
38. Chia-En Lin (Thesis), Dec. 2003
A comparison of agent-oriented software engineering methodologies and frameworks

At the University of Alabama in Huntsville (1997-2001)

37. Steven Conrad, MS (Paper Option), May 2001.
36. Ali Reza Mosthaghi, MS (Thesis), May 2001
A Petri-net based testing tool for Pthread programs
35. Shuaib Hanief, MS (Thesis), May 2001
A back-end compiler for a non-blocking multithreaded architecture, SDF.
34. Alireza Ramin Rahbin, MS (Paper option), May 1998.
Comparison of Fibre Channel with Ultra SCSI for Disk accesses.
Intergraph, Huntsville

At the University of Texas at Arlington (1982-1997)

33. Richard A. Velasquez, MS (Thesis) Dec. 1997
AMI: An active messages implementation
AMR Corporation (American Airlines), Ft. Worth, Texas.
32. Alina Beatriz Hernandez, MS (Thesis), Dec. 1997
Hyperactive Messages
Tektronix, Dallas, Texas
31. David Sheely, MS (Thesis), August 1996
Migratable Dynamically Linakable Objets: A new paradigm for client/server systems.
Received UTA College of Engineering Award for Exemplary Teaching by a Graduate Student, 1995.
Cambre Corporation -Texas, Dallas
30. S. Bakthavachalan, MS (Thesis), May 1996
Reuse of Operand Memory in ETS Dataflow Architecture
Texas Instruments, Dallas, Texas
29. Phenil Patadia, MS (Thesis), Dec. 1994
Design and evaluation of I-structure cache memory for dataflow multiprocessor environment
Nortel, Richardson, Texas
28. Elizabeth Abraham, MS (Thesis), Dec. 1994
Cache memories for multiprocessor dataflow architectures
Texas Instruments, Houston, Texas
27. Arshad Khan, MS (Thesis), Aug. 1994
Converting IF1 to ETS architecture
Instructor, GIK Institute of Engr., Topi-Swabi, Pakistan
26. John Robb, MS (Project), Dec. 1993
Dataflow Architecture and Multithreading
Lockheed-Martin, Ft. Worth, Texas
25. Paul McCarthy, MS (Project), Dec. 1993
Object Name Resolution Techniques
Independent Consultant, New Orleans, LA

24. Lisa Xu Miao, MS (Project), Dec. 1993
    A Performability Tool
    NEC-America, Irving, Texas
23. P. Shanmugam, MS (thesis), Dec. 1993
    Cache Memories with Dynamic Dataflow architecture
    Nortel, Richardson, Texas
22. Jayaram Anandampalli, MS (project), May 1993
    Debugging environment with Dataflow simulator DEK
    Lucent Technologies, New Jersey
21. Barbara Baker Wyatt, MS (thesis), Dec. 1991
    Received UTA Chapter Sigma Xi Research Award, May 1993.
    Implementing inheritance in a distributed object-oriented environment
    Lockheed-Martin, Ft. Worth, Texas
20. Vasu Vijayaraghavan, MS (thesis), Aug. 1991.
    Control-flow based extensions to dataflow language SISAL
    Anderson Consulting, Houston, Texas
19. Srinivasan Kuthalam, MS (thesis), Aug. 1990
    Decomposition and aggregation of stochastic dataflow graphs
    OnRamp Corp, Dallas, Texas
18. Chi Oyang, MS (thesis), Dec. 1989.
    Partitioning and mapping of parallel algorithms using dataflow graphs: Mapping
    SGI, California
17. Kuoling Fang, MS (thesis), Dec. 1989
    Partitioning and mapping of parallel algorithms using dataflow graphs: Partitioning
    NEC-America, Irving, Texas
16. M. M. Hamelfarb, MS (thesis), Aug. 1989.
    Logical verification of MRDF
15. Greg Russ Hunt (thesis), May 1989
    LARS: A list, array, raster and string processor
14. Steven C. Streiffert. (project) May 1989
    A concurrent C compiler for Transputer based systems
13. Wen-Gong Shieh.(project) Dec 1988
    A concurrent C language for Transputers
    Professor, Chinese Cultural University, Taipei, Taiwan
12. F.T. Sheldon, MS (thesis), Aug. 1988
    Software development and reliability modeling: Software life cycle model
    Oak Ridge National Labs
11. A. Lindberg, MS (thesis), Dec. 1987.
    Code optimization for pipelined processors
10. W.M. Lie, MS (project), Aug. 1986.
    A comparative evaluation of dataflow, pipelined and array processors for signal processing
       algorithms
9. S. Bhattacharjee, MS (project), Aug. 1986.
    CACTTUES: A computer architecture teaching tool using expert systems
8. J.T. Reynolds, MS (project), Dec. 1985.
    A survey of LISP machines.
7. A. Srinivasamurthy, MS (project), Dec. 85.
    Simulation of computer systems using DFDLS
6. R.M. Boyd., MS (thesis), Dec. 1985.
    DFDLS: A dataflow simulation environment
5. D.J. Chen, MS (thesis), Aug. 1985.
    Implementation details of SWARD prototype, evaluation and proposed extensions
    Professor, National Chio-Tung University, Hsinchu, Taiwan
4. D.E. Williams, MS (project), Aug. 1984
    SWARD environment at UTA
3. K. Krishnamohan, MS. (thesis), Aug. 1984.

Architecture quality measurement
Intel Corporation, Oregon

2. E.W. Banios, MS. (thesis), May 1984.
A message repository model for distributed operating systems
Deceased

At the University of Louisiana (formerly known as the University of Southwestern Louisiana) (1980-1982)

1. T. Wu (at USL): MS (thesis), Aug. 1982.
Performance evaluation of Multics at USL
Professor, Southern Illinois University at Edwardsville

Teaching

At the University of North Texas (2001-)

CSCE 2610: Assembly Language and Computer Organization
CSCE 5610/4610: Computer Architecture
CSCE 6720: Advanced Computer Architecture: Multithreaded systems
CSCI 3100: Computer Organization
CSCI 5200: Automata Theory
CSCI 5700: Computer Systems Architecture
CSCI 4330/5330: Special Topics: Principles of Parallel Programming using MPI and Pthreads
CSCI 6330: Special Topics – Distributed Shared Memory Systems
CSCI 6720: Advanced Computer Architecture: Multithreaded systems

At the University of Alabama in Huntsville (1997 - 2001)

CPE 302: Design of Digital Computes
CPE 510/CPE512: Introduction to Parallel Programming
CPE 610(CPE561): Translation Systems
CPE 610 (CPE619): Performance Modeling and Analysis
CPE 631: Architecture of Parallel Processors
CPE 642 (CPE 612): Parallel Algorithms
CPE 710/CPE731): Distributed Shared Memory Systems

At the University of Texas at Arlington (1982-1997):

CSE 1442 (No longer in the catalog): Introduction to CSE II
CSE 3302: Survey of Algorithmic Languages
CSE 3315: Theoretical Computer Science
CSE 3441: Digital Logic and Computer Organization
CSE 3322 (Previously CSE 4322): Computer Architecture I
CSE 4323: Computer Architecture II
CSE 5306 (Previously CSE 5303): Design of Operating Systems
CSE 5305 (Previously CSE 5304): Design and Construction of Compilers
CSE 5440 (Previously CSE 5407): Computer Organization
CSE 5350 (Previously CSE 5308): Computer Systems Architecture
CSE 5302 (Previously CSE 5313): Algorithmic Languages
CSE 5305 (Previously CSE 5312): Theoretical Computer Science
CSE 5313 (Previously CSE 5317): Mathematical Models for Computer Systems
CSE 5314 (Previously CSE 5337) Performance Measurement and Evaluation
CSE 5340 (No longer in the catalog) Architectures for non-numeric processors
CSE 6306 (Previously CSE 6311): Advances in Operating Systems
CSE 6351 (Previously CSE 6330): Parallel Processing
CSE 6350 (Previously CSE 6339): Advanced Topics in Computer Architecture
CSE 6351: Advanced Topics in Parallel and Distributed Processing
CSE 6352 (Previously CSE 6343) : Fault-Tolerant Computing

At the University of Louisiana (formerly University of Southwestern Louisiana) (1980-1982):

CMPS 430: Introduction to Computer Architecture
CMPS 431: Microprocessors and Microcomputers
CMPS 513: Principles of Computer Communications and Networks
CMPS 530: Principles of Computer Systems Organization

CMPS 630: Advanced Computer Structures

CMPS 639: Advanced Topics in Computer Architecture

At Southern Methodist University (1978-1980):

CS 1316: Introduction to Computer Science for Engineers (Fortran)

CS 1340: Advanced Computer Programming

CS 3100: Digital Logic Lab

CS 3360: Digital Logic and Computer Organization.

New Courses, Curricula and Teaching Tools Developed

At the University of North Texas (2001-)

Curricula:
- 2002-2003. Developed BS and MS Computer Engineering Curricula

At the University of Alabama in Huntsville (1997-2001)

Courses:
- CPE 710: Distributed Shared Memory System. Developed this new course emphasizing the current research in shared memory and distributed shared memory processing. This course is renumbered as CPE 731 in 2001 catalog
- CPE 542: Parallel Programming Techniques. Modified the current course to introduce multithreading and OpenMP Fortran. This course is renumbered as CPE 512 in 2001 catalog
- CPE 410/510: Introduction to Parallel Programming. Developed a new course as a part of the NSF REU-Site grant, to train undergraduate student in parallel programming techniques, particularly using Pthreads. This course is renumbered as CPE 412 in 2001 catalog.

Curricula:

- 2000-2001. Developed a joint PhD program in Computer Engineering to be managed by the ECE department at UAH and the ECE department at UAB.
- 2000-2001. Graduate and Undergraduate Curriculum. Revised, renumbered all courses in Computer Engineering.
- 1999-2000. Graduate Curriculum. Revised, renumbered graduate courses in Computer Engineering. Streamlined MSE Programs by defining a CORE and areas of specialization.
- 1999-2000. Graduate Curriculum. Developed Distance Learning MSE program in Computer Engineering with Computer Communications And Networks As Specialization.
- 1998-1999.Undergraduate Curriculum. Revised and restructured the CPE degree to increase Computer related courses and permit 9 hours of technical electives
- 1997-1998. Graduate Curriculum. Restructured a number of courses and facilitated graduate degrees with courses well suited for local industrial concerns.

At the University of Texas at Arlington (1982-1997)

Courses:
- CSE 1442: Introduction to Computer Science and Engineering-II. Developed this new course emphasizing the mathematical foundations of computer science. Although developed in conjunction with the Honors program in Parallel Processing (HIPP), the CSE Undergraduate Studies Committee has accepted this as the second core course for all CSE majors. This course was taught for the first time in Fall 1991.
- CSE 3346 and CSE 3347. Developed a two course sequence on systems software to introduce the basic principles, algorithms and design issues related to software systems including assemblers, linkers, loaders, compilers, operating systems, link-level network protocols, file structures and file-

transfers. Although developed in conjunction with the Honors program in Parallel Processing (HIPP), the CSE Undergraduate Studies Committee has accepted the two courses for all CSE majors (replacing current courses on Systems Programming and Operating Systems). These course will be taught for the first time starting in Fall 1991.

- CSE 4322: Completely revised the course, and made it into a project intensive course, and taught the course several times since Spring 1984.
- CSE 4323: Designed the course and taught two times since Fall 1988 for undergraduate students in Architecture Track.
- CSE 4351: Developed this course for students interested in learning about parallel programming techniques. This course is developed specifically for the Honors program in Parallel Processing.
- CSE 5317 (New Course Number is CSE 5313): Revised and taught the course in Spring 1990 to first year graduate students in an attempt to introduce mathematical techniques and tools needed for research in computer systems (including Graph theory, Petri-nets, Stochastic Processes)
- CSE 5337 (New Course Number is CSE 5314): Revised and taught the course two times starting in Summer 1986 to graduate students interested in measuring and tuning computer systems performance, and computer capacity planning.
- CSE 5340 : Designed and taught this course three times starting in Fall 1985 to advanced graduate students interested in non-numeric processing systems such as database machines, LISP/Prolog machines and Graphics processors.
- CSE 6339 (New Course Number is CSE 6350): Designed and taught this course four times starting in Spring 1983 to advanced graduate students interested in language-directed, object-based and capability-based computer systems.

Curricula:
- HIPP: Undergraduate honors program in parallel processing (with B. Weems, S.M. Yang and D. Umbaugh) (Also developed 4 new courses, CSE 1442, CSE 3346, CSE 3347, CSE 4351)
- Revised CSE Undergraduate Curriculum for 1993 catalog.
- A New MS in CSE option called Non-Thesis-Non-Project (with L. Peterson and D. Umbaugh).
- Architecture Track for MS degrees (with V.K. Raj, T.C. Lin and B.D. Carroll)

Teaching techniques or material developed.
- Developed an expert system to aid the students in their project design, (for the selection of an instruction set), used it in CSE 4322 at the University of Texas at Arlington, during the years 1986-1988. This system was developed as a part of an MS project by S. Bhattacharjee.
- Developed a Microprogramming Simulator (with an Undergraduate student) that was used in CSE 430, at the University of Southwestern Louisiana until 1984.

Service Related Activities

Scientific and professional society membership:

5. Member of Intelligent Systems Technical Committee, AIAA (2001-2004)
4. IEEE computer society, Senior Member (since 1986)
    Technical committees on Architecture, Distributed processing
3. Association for Computing Machinery.
    SIGARCH, SIGPLAN, SIGOPS, SIGMICRO.
2. Sigma Xi, UTA chapter.
1. Upsilon Pi Epsilon, UTA chapter

Professional Service Activities

14. **Panelist,** Quo Vadis Software Engineering?, at the International Conference on Software Engineering Advances (ICSEA-2015), November 15, 2015, Barcelona, Spain
13. Editor, International Scholarly Research Network Journal of Software Engineering (2011-)
12. *Editor, Journal of Information Science and Engineering, Published by Academia Sinica, Taiwan (2011-2015)*
11. Co-Chair, Metroplex Technology Business Council (MTBC) Innovation Team, Special Interest Group on Cloud Computing, 2010-
10. *ABET (Computer Engineering) Evaluator, 1999-2005*
9. Guest Editor, IEEE Software, Sept. 1996 Special Issue on Assessment of Software Tools
8. *Editor, IEEE Transactions on Computers, 1993-1997.*
7. IEEE CS Technical Committee on Distributed Computing Systems Executive Committee (1992)
6. *CSAB Evaluator, 1991--1997.*
5. Distinguished Visitor, IEEE Computer Society 2005-2007 and 1989-1992.
4. *Editor, IEEE CS-Press (1988-1992)*
3. Written letters for Tenure and Promotion of faculty at various universities.
2. Reviewer
    Journals: ACM Tr. on Comp. Systems, IEEE Transactions on Computers, IEEE Transactions on Software Engineering, IEEE Transactions on Parallel and Distributed Systems, Journal of Parallel and Distributed Computing, IEEE Tr. on Reliability, IEEE Computer, IEEE Software, IEEE Micro, Proceedings of the IEEE, Journal of Systems and Software, EUROMICRO Microprocessors/ Microcomputer, EUROMICRO Journal of Systems Architecture, International Journal of Reliability, Quality and Safety Engineering, Slovenian International Journal Informatic, Parallel and Distributed Computing Practices (PDCP), ISCA Journal of Computers and Their Applications, ETRI Journal (Korea), Journal of Universal Computing (Europe), ACTA Press International Journal of Power and Energy Systems. CSI Journal of Computer Science and Engineering (2008-2009), IEEE Micro
    Elsevier Information and Software Technology
    Conferences: IEEE/ACM Symposium on Computer Architecture (1982-85, 87-88, 90, 92-93), IEEE Parallel Processing (1988, 1989-92), IASTED Intl. Conf. on Modl. and Siml. (1983, 1989, 1990), Hawaii Intl. conf. on system sciences (1989-96, 2010-2011), Phoenix Conf on Computers and Communications (1988, 1991), IEEE Intl. Conf on Distr. Comp. Syst.(1986, 1988, 1991), ICPADS-94, COMPSAC'95, IPPS (1993-95), ASPLOS-96, ASPLOS-98, HPCA (1996-99), Euro-PDS (1997, 1998), PAPM98, ISPAN-99, PDCS-99, PDCS-2001, PDCS-2002, PDCS-2003, ICA3PP-2000, ICA3PP-2002, ICA3PP-2005, IPDPS-2004, IEEE Intl Conf on Information Reuse and Integration (IEEE IRI) – 2004, IEEE IRI-2005.
    16th ACM Principles and Practice of Parallel Programming (PPoPP-2011), San Antonio, Feb 12-16, 2011)
    Book Publishers: Prentice-Hall publishing company, John-Wiley & Sons, McGraw-Hill, Morgan-Kaufman
    Research Proposals: National Science Foundation, DARPA, AFOSR
        Site Visits On Behalf of NSF

1. Conference organization/participation

General Chair: SCOPES-2005. Software and Compilers for Embedded Systems, Sept 2005, Dallas, Texas

PC Chairman: IEEE Intl. Workshop on CSO (New Orleans, March 1983)

NSF Workshop on New challenges and directions for systems research, July 31-Aug. 31, 1997, St. Louis, MO.

PC Vice Chair: Program Committee Co-Chair (for Architecture Track), 43th International Conference on Parallel Processing, Sept 2011, Minneapolis, MN

The 40th Annual International Conference on Parallel Processing (ICPP 2011), September 13-16, 2011, Taipei, Taiwan

Program Committee:

The sixth International Conference on Computing, Communications and Network Technologies (6th ICCCNT), July 13-15, 2015, Dallas, Texas

International Conference on Software Engineering Advances (ICSEA)
ICSEA-2012, Lisbon, Portugal
ICSEA-2013, Venice, Italy
ICSEA-2014, Oct. 12-16, 2014, Nice, France
ICSEA-2015, Nov. 15-20, 2015, Barcelona, Spain

Workshop on Dataflow Models for Extreme Scale Computing (DFM), held in conjunction with PACT
DFM-2012, Sept. 23, 2012Minneapolis, MN
DFM-2013, Sept 8, 2013, Edinburg, Scotland
DFM-2014, Aug. 24, 2014, Edmonton, Canada
DFW-2015, Oct 18, 2015, San Francisco, CA

10th Annual IEEE-CCNC Smart Spaces and Sensor Networks, Los Vegas, NV, Jan 2013

The 41st International Conference on Parallel Processing (ICPP-2012), Sept. 10-13, 2012, Pittsburgh, PA, USA

IEEE Consumer Communications & Networking Conference (CCNC'2012), Jan. 14-17, 2012, Las Vegas, Nevada

19th International Heterogeneity Computing Workshop (HCW 2011), held in conjunction with IEEE International conference on Parallel and Distributed Processing Systems (IPDPS 2011).

IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA10), Taipei, Taiwan, Sept 6-9, 2010

ACM Annual Cyber Security and Information Intelligence Research Workshop
6th **CSIIRW-6**, Oak Ridge, TN on April 21 - 23, 2010
8th **CSIIRW-8**, Oak Ridge, TN on October 30-Nov. 1, 2012

HiPEAC Workshop on Reconfigurable Computing (WRC)
5th WRC-2011 (Heraklion, Crete, Jan. 23, 2011)
4th WRC-2010 (Pisa, Italy, January 23, 2010)

The 4th IET International Conference on Intelligent Environments (IE08), Seattle, July21-22, 2008.

International Conference on Software and Data Technologies (ICSOFT),
       3rd (ICSOFT-2008), Porto, Portugal, July 5-8, 2008.
       2nd (ICSOFT-2007) Barcelona, Spain, July 22-25, 2007.
       1st (ICSOFT-2006) Seubal, Portugal, Sept 11-14, 2006

International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP)
       Eight ICA3PP-2008, June 9-11, 2008, Cyprus
       Seventh ICA3PP-2007, June 11-14, 2007, Hagnzou, China
       Sixth ICA3PP-2005, Oct. 2-5, 2005, Melbourne, Australia.
       Fifth ICA3PP-2002, Beijing, China, Oct. 2002.
       Fourth ICA3PP-2000 Hong Kong, Dec. 11-13, 2000.

MEDEA Workshop-- Held in Conjunction with the International Conference on Parallel Architectures and Compiler Technologies (PACT)
       MEDEA-2007, Sept. 15-19, Brasov, Romania
       MEDEA-2006, Sept. 16-20, Seattle, WA
       MEDEA-2005, Sept. 19-20, 2005, St. Louis, MO
       MEDEA-2004, Sept. 29- Oct.3, 2004, France.
       MEDEA-2003, Oct. 2003, New Orleans.
       MEDEA-2002 - Charlottesville, Virginia, USA
       MEDEA-2001.- Sept. 8-12, 2001, Barcelona, Spain.

IEEE International Conference on Information Reuse and Integration
       IRI-2005, Las Vegas, USA, Aug. 15-17, 2005
       IRI-2004, Las Vegas, USA, Nov. 1-3, 2004.

HCW'01: The 10th Heterogeneous Computing Workshop, April 23-27, 2001, San Francisco, CA

19th IEEE International Performance, Computing, and Communications Conference (IPCCC 2000), February 20-22, 2000, Phoenix, Arizona.

Sixth international workshop on Process Algebras and Performance Evaluation (PAPM98), Nice, France, Sept. 12, 1998.

First International Conference on Parallel and Distributed Systems (EURO-PDS'97), June 9-11, 1997, Barcelona

IEEE Symposium on Assessment of Software Tools (SAST) (Toronto, May 22-24, 1996).

3rd IEEE Quality Assessment of Software Tools (June 7-9, 1994, Washington,

IEEE International Conference on High Performance Computing, (New Delhi, India, Dec. 28-30, 1995).

4th IEEE Intl. Workshop on Evaluation Techniques for Dependable Systems, San Antonio, TX, Oct. 2-3, 1995.

IEEE COMPSAC'95, (Dallas, Texas, Aug. 7-10, 1995)

IEEE Intl. Conf. on Distr. Comp. Syst. (ICDCS), 1991

IEEE Symp on Parallel and Distr. Proc. (SPDP), 1990, 1991

IEEE/ACM International Symposium on Computer Architecture
       11th ISCA, May 1984, Ann Arbor, MI
       12th ISCA, May 1985, Boston, MA

Workshops Chair: PACT-2000 (International Conf on Parallel Architectures and Compiler Technologies), Oct. 15-19, Philadelphia, PA

Awards Committee: ICDCS-99. Chair, Best Paper Awards

Minitrack Coordinator:	
	30th Hawaii International Conference on Syst. Sciences, (Maui, Hawaii, Jan. 7-10, 1997).
	29th Hawaii International Conference on Syst. Sciences, (Maui, Hawaii, Jan. 4-7, 1996).
Panel Moderator:	SPDP, San Antonio, TX, Oct. 25-27, 1995
	Sixth international workshop on Process Algebras and Performance Evaluation (PAPM98), Nice, France (Sept 12, 1998)
Panelist:	ICPADS-94, Hsinchu, Taiwan, Dec. 19-21, 1994.
Session Chairman:	NCC-81 (Chicago, 1981)
	11th Computer Architecture Symposium (Ann Arbor, May 1984)
	12th Computer Architecture Symposium (Boston, May 1985)
	Midcon-90 (Dallas, Oct. 1990)
	2nd Symp on Parallel and Distr. Proc. (Dallas, Dec. 1990)
	5th Symp on Parallel and Distr. Proc. (Dallas, Dec. 1993)
	Symposium on Applied Computing, (Kansas City, MO, March 1991)
	25th Hawaii Intl Conf on Syst. Sci. (HICSS) (Jan 1992)
	27th Hawaii Intl Conf on Syst. Sci. (Jan 94)
	30th HICSS, Jan. 1997, Maui, Hawaii.
	3rd Quality assessment of Software Tools (June 1994)
	Fault-Tolerant Systems and Software, IIT Madras, India (Dec. 1995)
	PDCS-96 (Symposium on Parallel and Distributed Processing), Oct. 23-26, 1996, New Orleans, Louisiana.
	PDCS-99, Ft. Lauderdale, FL, Aug. 18-20, 1999.
	PDCS-2005, Las Vegas, Sept. 12-14, 2005.
	ISPAN-99, Fremantle, Western Australia, June 23-25, 199
Steering Committee:	Symposium on Parallel and Distr Processing, 1990-1996.

University and Departmental Committees

At the University of North Texas (2001-

1. Director NSF Net-Centric Industry/University Cooperative Research Center
2. Department Chair (2001-2009)
3. CSE Executive Committee (2001-2009)
4. College of Engineering representative on UNT RCM ad hoc committee (2004-2005)
5. Executive Committee, UNT Chair's Council (2007-2009)

At the University of Alabama in Huntsville (1997-2001)
1. Chair, College of Engineering Planning Committee (2000-2001)
2. Member, ECE Planning Committee (2000-2001)
3. Chair, Computer Engineering Affairs Committee (2000-2001)
4. Member, ECE Graduate Affairs Committee (1998-1999)
5. Member, College of Engineering Curriculum Committee (1998-1999)
6. Member, ECE Research Enhancement Committee (1997-1999)
7. Member, ECE Planning committee (1998-1999)
8. Member, ECE Faculty Recruiting Committee (1998-199)
9. Member, Search Committee for VP-Research (1998)
10. Chair, Faculty Re-appointment Committee for Cohen, Fork, Gaede, Shtessel (1998)
11. Chair, Computer Engineering Committee (standing committee)

12. Member, ECE Tenure and Promotions Committee (standing committee)
13. Chair, ECE Research Enhancement Committee (1997)
14. Member, College of Engineering Promotions and Tenure Committee (1997-1999)
15. Member, UAH Minigrants Evaluation Committee (1997-1999)

At the University of Texas at Arlington (1982-1997)
1. PhD Admissions Committee (1995-1997)
2. CSE Research enhancement committee (member 1991-1997, chair 1992, 93, 95)
3. Undergraduate studies committee (1988-1993)
4. Undergraduate advisor (1988-1993))
5. Faculty Recruiting committee (1990-1993, 1995-96)
6. Library representative (1989-1992)
7. Graduate studies committee (standing committee)
8. Tenure and promotions committee (standing committee)
9. Ad-hoc committee on long-range-planning(1986-1987)
10. Dean's search committee (1987)