

David J. Yates

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EDUCATION

University of Massachusetts	Amherst, MA
Ph.D. in Computer Science	February 2006
Thesis: “Scalable Data Delivery for Networked Servers and Wireless Sensor Networks”	
University of Massachusetts	Amherst, MA
M.S. in Computer Science	May 1992
Tufts University	Medford, MA
B.S. in Electrical Engineering, Computer Science concentration	May 1989

IN PROGRESS

S. Baker, K. L. Keville, D. J. Yates, K. Arya and G. Cooperman “High-Speed Interconnection Networks for Energy Efficient High-Performance Computing.” [[BKYAC-WIP](#)]

G. J. Gulati and D. J. Yates, “Understanding the Impact of Policy, Regulation and Governance on Broadband Diffusion in the Developed and Developing Worlds.” [[GY-WIP](#)]

W. T. Schiano, D. J. Yates and L. J. Waguespack, “Apache Web Server: Applying Lessons from Physical Architecture to Enable Systems to Thrive.” [[SYW-WIP](#)]

JOURNAL ARTICLES

G. J. Gulati and D. J. Yates, “Different Paths to Universal Access: The Impact of Policy and Regulation on Broadband Diffusion in the Developed and Developing Worlds,” *Telecommunications Policy*, Vol. 36, No. 9, 749-761, 2012. [Selected as one of seven papers out of 80+ that appeared at the 39th Research Conference on Communication, Information, and Internet Policy \(TPRC\) to appear in this special issue of Telecommunications Policy.](#) [[TP-2012](#)]

G. J. Gulati and D. J. Yates, “Strategy, Competition and Investment: Explaining the Global Divide in E-Government Implementation with Policy Variables,” *Electronic Government: An International Journal*, Vol. 8, No. 2/3, 124-143, 2011. [[EGIJ-2011](#)]

D. J. Yates, J. W. Weiss and G. J. Gulati, “Universal Broadband: An Analysis of Global Stakeholders and the Pursuit of the Common Good,” *International Journal of Innovation in the Digital Economy*, Vol. 1, No. 2, 25-43, 2010. [[IJIDE-2010](#)]

L. J. Waguespack, D. J. Yates and W. T. Schiano, “Translating Architectural Design Quality from the Physical Domain to Information Systems,” *Design Principles & Practices: An International Journal*, Vol. 4, No. 1, 179-194, 2010. [[DPPIJ-2010](#), [slides](#)]

D. J. Yates, E. M. Nahum, J. F. Kurose and P. Shenoy, “Data Quality and Query Cost in Pervasive Sensing Systems” (Extended Version), *Pervasive and Mobile Computing*, Vol. 4, No. 6, 851-870, 2008. [Selected as one of seven papers out of over 160 submitted to the 2008 IEEE International Conference on Pervasive Computing and Communications \(PerCom\) to appear in this special issue of Pervasive and Mobile Computing.](#) Also one of four journal articles or books published in 2005-2008 to receive a Bentley University Outstanding Scholarly Contribution Award in 2009. [[PMCIJ-2008](#), [slides](#)]

D. J. Yates, T. McGonagle and A. Tawileh, “How Open Source Software and Wireless Networks are Transforming Two Cultures: An Investigation in Urban North America and Rural Africa,” *The International Journal of Technology, Knowledge, and Society*, Vol. 4, No. 6, 145-158, 2008. [[IJTKS-2008](#)]

J. M. Almeida, V. Almeida and D. J. Yates, “WebMonitor: A Tool for Measuring World-Wide Web Server Performance,” *First Monday*, Vol. 2, No. 7, 1997. [[FMJ-1997](#)]

D. J. Yates, J. F. Kurose, D. Towsley and M. G. Hluchyj, “On Per-Session End-to-End Delay and the Call Admission Problem for Real-Time Applications with QOS Requirements,” *Journal of High Speed Networks*, Vol. 3, No. 4, 429–458, 1994. [[JHSN-1994](#), [report](#)]

BOOK CHAPTERS

D. J. Yates, J. W. Weiss and G. J. Gulati, “Universal Broadband: An Analysis of Global Stakeholders and the Pursuit of the Common Good” (Reprint), in *Digital Economy Innovations and Impacts on Society*, Elena Druicã (Ed.), IGI Global, (Hershey, PA, USA), 2012. [[DEIS-2012](#)]

D. J. Yates, T. McGonagle and A. Tawileh, “How Open Source Software and Wireless Networks are Transforming Two Cultures: An Investigation in Urban North America and Rural Africa” (Reprint), in *Emerging Digital Spaces in Contemporary Society: Properties of Technology*, K. G. Martín and P. Kalantzis-Cope (Eds.), Palgrave Macmillan, (New York, USA), 2011. [[EDSCS-2011](#)]

G. J. Gulati, D. J. Yates and A. Tawileh, “Towards E-participation in the Middle East and Northern Europe,” in *Comparative E-Government: An Examination of E-Government across Countries*, C. G. Reddick (Ed.), Springer, (Berlin, Germany), 2010. [[COEGov-2010](#)]

G. J. Gulati, D. J. Yates and A. Tawileh, “Explaining the Global Digital Divide: The Impact of Public Policy Initiatives on E-Government Access and Reach Worldwide” (Extended Version), in *Politics, Democracy and E-Government: Participation and Service Delivery*, C. G. Reddick (Ed.), IGI Global, (Hershey, PA, USA), 2010. [[PDEGov-2010](#), [slides](#)]

D. J. Yates and J. Xu, “Sensor Field Resource Management for Sensor Network Data Mining,” in *Intelligent Techniques for Warehousing and Mining Sensor Network Data*, A. Cuzzocrea (Ed.), IGI Global, (Hershey, PA, USA), December 2009. [[WMSND-2009](#)]

REFEREED CONFERENCE PAPERS

W. T. Schiano, D. J. Yates and L. J. Waguespack, “Apache Web Server: Applying Lessons from Physical Architecture to Enable Systems to Thrive,” in *Seventh International Conference on Design Principles and Practices*, Chiba, Japan, March 2013. [[ICDPP-2013](#)]

D. J. Yates, G. J. Gulati and J. W. Weiss, “Understanding the Impact of Policy, Regulation and Governance on Mobile Broadband Diffusion,” in *Forty-Sixth Hawaii International Conference on System Sciences (HICSS)*, Wailea, Maui, HI, January 2013. [[HICSS-2013](#)]

K. L. Keville, R. Garg, D. J. Yates, K. Arya and G. Cooperman, “Towards Fault-Tolerant Energy-Efficient High Performance Computing in the Cloud,” in *IEEE International Conference on Cluster Computing*, Beijing, China, September 2012. [[CLUSTER-2012](#)]

G. J. Gulati, D. J. Yates and C. B. Williams, “Understanding the Impact of Political Structure, Governance and Public Policy on e-Government,” in *Forty-Fifth Hawaii International Conference on System Sciences (HICSS)*, Wailea, Maui, HI, January 2012. Selected as the best of 12 submitted papers in the Services and Information topic area at this conference. Also nominated for a Best Paper Award in the E-Government track. [[HICSS-2012](#), [slides](#)]

- G. J. Gulati and D. J. Yates, “Different Paths to Universal Access: The Impact of Policy and Regulation on Broadband Diffusion in the Developed and Developing Worlds,” in *39th Research Conference on Communication, Information and Internet Policy (TRPC)*, Washington, DC, September 2011. [[TPRC-2011](#), [slides](#)]
- D. J. Yates, G. J. Gulati and J. W. Weiss, “Different Paths to Broadband Access: The Impact of Governance and Policy on Broadband Diffusion in the Developed and Developing Worlds,” in *Forty-Forth Hawaii International Conference on System Sciences (HICSS)*, Koloa, Kauai, HI, January 2011. [Received Best Paper Award in the Digital Media: Content and Communication track. More than 35 papers were submitted to this track; 17 papers were accepted.](#) [[HICSS-2011](#), [slides](#)]
- E. Unal and D. J. Yates, “Enterprise Fraud Management Using Cloud Computing: A Cost-Benefit Analysis Framework,” in *Eighteenth European Conference on Information Systems (ECIS)*, Pretoria, South Africa, June 2010. [[ECIS-2010b](#), [slides](#)]
- D. J. Yates, G. J. Gulati and J. W. Weiss, “Towards Universal Broadband: Understanding the Impact of Policy Initiatives on Broadband Diffusion and Affordability,” in *Eighteenth European Conference on Information Systems (ECIS)*, Pretoria, South Africa, June 2010. [[ECIS-2010a](#), [slides](#)]
- L. J. Waguespack, D. J. Yates and W. T. Schiano, “Translating Architectural Design Quality from the Physical Domain to Information Systems,” in *Fourth International Conference on Design Principles and Practices*, Chicago, IL, February 2010. [[ICDPP-2010](#), [slides](#)]
- D. J. Yates, G. J. Gulati and A. Tawileh, “Explaining the Global Digital Divide: The Impact of Public Policy Initiatives on Digital Opportunity and ICT Development,” in *Forty-Third Hawaii International Conference on System Sciences (HICSS)*, Koloa, Kauai, HI, January 2010. [Selected as the best of 15 submitted papers in the Digital Divide / Digital Inclusion topic area at this conference. Also nominated for a Best Paper Award in the Digital Media: Content and Communication track.](#) [[HICSS-2010](#), [slides](#)]
- G. J. Gulati, D. J. Yates and A. Tawileh, “Explaining the Global Digital Divide: The Impact of Public Policy Initiatives on E-Government Access and Reach Worldwide,” in *International Association for Media and Communication Research Conference*, Mexico City, July 2009. [[IAMCRC-2009](#), [slides](#)]
- D. J. Yates, E. M. Nahum, J. F. Kurose and P. Shenoy, “Data Quality and Query Cost in Pervasive Sensing Systems,” in *Sixth IEEE International Conference on Pervasive Computing and Communications*, Hong Kong, March 2008. [Selected as one of seven papers out of over 160 submitted to the 2008 IEEE International Conference on Pervasive Computing and Communications to appear in the December 2008 special issue of Pervasive and Mobile Computing.](#) [[PerCom-2008](#), [slides](#)]
- D. J. Yates, T. McGonagle and A. Tawileh, “How Open Source Software and Wireless Networks are Transforming Two Cultures: An Investigation in Urban North America and Rural Africa,” in *Fourth International Conference on Technology, Knowledge, and Society*, Boston, MA, January 2008. [[ICTKS-2008](#), [slides](#)]
- E. M. Nahum, D. J. Yates, J. F. Kurose and D. Towsley, “Cache Behavior of Network Protocols,” in *ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems*, Seattle, WA, June 1997. [[METRICS-1997](#), [slides](#)]
- J. M. Almeida, V. Almeida and D. J. Yates, “Measuring the Behavior of a World-Wide Web Server,” in *Seventh IFIP Conference on High Performance Networking (HPN)*, White Plains, NY, April 1997. [[HPN-1997](#), [slides](#)]

- D. J. Yates, E. M. Nahum, J. F. Kurose and D. Towsley, "Networking Support for Large Scale Multiprocessor Servers," in *ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems*, Philadelphia, PA, May 1996. [[METRICS-1996](#)]
- E. M. Nahum, D. J. Yates, S. O'Malley, H. Orman and R. Schroepfel, "Parallelized Network Security Protocols," in *Internet Society Symposium on Network and Distributed System Security*, San Diego, CA, February 1996. [[SNDSS-1996](#)]
- E. M. Nahum, D. J. Yates, J. F. Kurose and D. Towsley, "Performance Issues in Parallelized Network Protocols," in *First USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, Monterey, CA, November 1994. [[OSDI-1994](#)]
- D. J. Yates, J. F. Kurose, D. Towsley and M. G. Hluchyj, "On Per-Session End-to-End Delay Distributions and the Call Admission Problem for Real-Time Applications with QOS Requirements," in *ACM SIGCOMM Symposium on Communications Architectures and Protocols*, San Francisco, CA, September 1993. [[SIGCOMM-1993](#)]

WORKSHOP AND OTHER PAPERS

- K. L. Keville, M. Williams and D. J. Yates, "Cluster Design for Energy-Efficient High-Performance Computing," in *ACM/IEEE Supercomputing Conference, Disruptive Technologies Forum*, Seattle, WA, November 2011. [[SCDTF-2011](#)]
- M. Higgins, K. L. Keville, G. Khanna and D. J. Yates, "Solar-powered Supercomputing," in *ACM/IEEE Supercomputing Conference, Disruptive Technologies Forum*, New Orleans, LA, November 2010. [[SCDTF-2010](#)]
- G. J. Gulati and D. J. Yates, "Different Paths to Universal Broadband: The Impact of Political Structure, Governance and Policy Initiatives on Broadband Internet Diffusion in the Developed and Developing Worlds," in *Third International Workshop on Global Internet Governance*, Montreal, QC, Canada, May 2010. [[IWGIC-2010](#)]
- D. J. Yates, "Is There Such a Thing as a Green Network?," in *IEEE Enterprise Networking and Services (ENTNET)*, Honolulu, HI, December 2009. [[ENTNET-2009](#)]
- R. Centauro, K. L. Keville, G. Khanna and D. J. Yates, "The Green Team Supercomputer," in *ACM/IEEE Supercomputing Conference, Disruptive Technologies Forum*, Portland, OR, November 2009. [[SCDTF-2009](#)]
- W. T. Schiano, L. J. Waguespack and D. J. Yates, "Lessons for IT Architecture from Physical Architecture," in *Symposium on Computer-Human Interaction for Management of Information Technology*, Baltimore, MD, November 2009. [[CHIMIT-2009b](#)]
- R. Centauro, K. L. Keville, G. Khanna and D. J. Yates, "Workflow and Resource Management for Energy-Efficient Supercomputing," in *Symposium on Computer-Human Interaction for Management of Information Technology*, Baltimore, MD, November 2009. [[CHIMIT-2009a](#)]
- D. J. Yates, K. Keville, R. Centauro and T. McGonagle, "Towards Green Computing and Communication," in *Fifth International Conference on Technology, Knowledge, and Society, Research-in-Progress Forum*, Huntsville, AL, February 2009. [[ICTKS-2009](#)]
- D. J. Yates, E. M. Nahum, J. F. Kurose and P. Shenoy, "Data Quality and Query Cost for Wireless Sensor Networks," in *Third IEEE International Workshop on Sensor Networks and Systems for Pervasive Computing (PerSeNS)*, White Plains, NY, March 2007. [[PerSeNS-2007](#)]
- D. J. Yates, J. F. Kurose, E. M. Nahum and P. Shenoy, "Data Caching and Dissemination in Sensor Networks (Extended Abstract)," in *First Collaborative Adaptive Sensing of the Atmosphere (CASA) Research Workshop*, Estes Park, CO, October 2004. [[CASARW-2004](#)]

D. J. Yates, V. Almeida and J. M. Almeida, "On the Interaction between an Operating System and a Web Server," in *Third Technical Conference on Telecommunications R&D*, Lowell, MA, November 1997. [[TR&D-1997](#)]

A. A. Heddaya, S. A. Mirdad and D. J. Yates, "Diffusion-based Caching along Routing Paths," in *Second International Web Caching Workshop*, Boulder, CO, June 1997. [[IWCW-1997](#)]

D. J. Yates, E. M. Nahum, J. F. Kurose and D. Towsley, "Networking Support for Large Scale Multiprocessor Servers (Extended Abstract)," in *Third IEEE Workshop on the Architecture and Implementation of High Performance Communications Subsystems (HPCS)*, Mystic, CT, August 1995. [[HPCS-1995](#)]

PRESENTATIONS AND PANELS

K. L. Keville and D. J. Yates, "Towards Fault-Tolerant Energy-Efficient High Performance Computing in the Cloud," to Energy-Efficient High Performance Computing Birds-Of-a-Feather Session, *IEEE High Performance Extreme Computing Conference (HPEC)*, Waltham, MA, September 2012. [[T20](#)]

K. L. Keville and D. J. Yates, "Towards Fault-Tolerant Energy-Efficient High Performance Computing in the Cloud," to High Performance Computing Journal Club, Harvard University, Cambridge, MA, August 2012. [[T19](#)]

J. W. Weiss and D. J. Yates, "Bridging the Global Broadband Divide in Informal and Formal Economies," at *Academy of Management Annual Meeting*, Boston, MA, August 2012. [[T18](#)]

D. J. Yates, "Data Quality and Query Cost in Pervasive Sensing Systems," to College of Computer Science, Northeastern University, February 2012. [[T17](#)]

D. J. Yates, G. J. Gulati and J. W. Weiss, "Towards Universal Broadband: Understanding the Impact of Policy Initiatives on Broadband Diffusion and Affordability," to Department of Communications, Suffolk University, March 2010. [[T16](#)]

D. J. Yates, G. J. Gulati and J. W. Weiss, "Towards Universal Broadband: Understanding the Impact of Policy Initiatives on Broadband Diffusion and Affordability," in CIS/IPM Research Seminar Series, Bentley University, February 2010. [[T15](#)]

J. Fedorowicz, D. J. Yates, G. J. Gulati and F. Manjoo, "Business, Politics, and Culture of Online Social Networking," in Valente Center for Arts and Sciences. Bentley University, April 2009. [[link](#)]

D. J. Yates, "Data Quality and Query Cost in Pervasive Sensing Systems," to Department of Computer Science, Louisiana State University, December 2008. [[T14](#)]

D. J. Yates, "Data Quality and Query Cost in Pervasive Sensing Systems," to Computer Science Department, University of Louisiana at Lafayette, December 2008. [[T13](#)]

D. J. Yates and T. McGonagle, "How Open Source Software and Wireless Networks are Transforming Two Cultures: An Investigation in Urban North America and Rural Africa," in CIS Presents Seminar Series, Bentley University, February 2008. [[T12](#)]

D. J. Yates and H. Topi, "Wireless Network Technologies in the Mobile Enterprise," at *IEEE International Conference on Enterprise Networking and Services*, Washington, DC, November 2007. [[T11](#)]

D. J. Yates, E. M. Nahum, J. F. Kurose and P. Shenoy, "Data Quality and Query Cost in Wireless Sensor Networks," in CIS/IPM Research Seminar Series, Bentley University, February 2007. [[T10](#)]

D. J. Yates, E. M. Nahum, J. F. Kurose and P. Shenoy, “Data Quality and Query Cost in Wireless Sensor Networks,” to Department of Computer Science, University of Massachusetts at Lowell, October 2006. [T9]

D. J. Yates, “Scalable Data Delivery for Networked Servers and Wireless Sensor Networks,” to Department of Computer Information Systems, Bentley College, March 2005. [T8]

D. J. Yates, “Scalable Data Delivery for Networked Servers and Wireless Sensor Networks,” to Department of Computer Science, George Mason University, March 2005. [T7]

D. J. Yates, J. F. Kurose, E. M. Nahum and P. Shenoy, “Data Caching and Dissemination in Sensor Networks,” to Computer Science Department, University of New Mexico, February 2005. [T6]

D. J. Yates, “HTTP 1.1: Protocol, Implications, Performance,” to Tutorial Attendees, *Thirteenth International World Wide Web Conference*, New York, NY, May 2004. [T5]

D. J. Yates, “Web Server Clusters,” to Tutorial Attendees, *Thirteenth International World Wide Web Conference*, New York, NY, May 2004. [T4]

D. J. Yates, E. M. Nahum, J. F. Kurose and D. Towsley, “Networking Support for Large Scale Multiprocessor Servers,” at IBM T. J. Watson Research Labs, Hawthorne, NY, October 1995. [T3]

D. J. Yates and E. M. Nahum, “Connection-level Parallelism for Network Protocols on Shared-memory Multiprocessor Servers,” Silicon Graphics, Mountain View, CA, November 1994. [T2]

D. J. Yates and E. M. Nahum, “Connection-level Parallelism for Network Protocols on Shared-memory Multiprocessor Servers,” Hewlett Packard Labs, Palo Alto, CA, November 1994. [T1]

PATENTS

U.S. 6,892,218, “Extending Network Services Using Mobile Agents,” A. A. Heddaya, K. T. Lewis, S. A. Mirdad, D. J. Yates and I. C. Yates, May 2005. [I7us]

U.S. 6,622,157, “Extending Network Services Using Mobile Agents,” A. A. Heddaya, K. T. Lewis, S. A. Mirdad, D. J. Yates and I. C. Yates, September 2003. [I5us]

E.P. 1,066,709, “Message Redirector with Cut-Through Switch,” A. D. Amicangioli, R. Y. Chow and D. J. Yates, September 2003. [I6ep]

E.P. 1,166,525, “Connection Pass-Through to Optimize Server Performance,” D. J. Yates, A. D. Amicangioli, A. A. Heddaya, W. Y. Tao, S. A. Mirdad, I. C. Yates, J. P. Fariborz, D. E. Dukinfield, January 2002. [I2ep]

U.S. 6,327,242, “Message Redirector with Cut-Through Switch for Highly Reliable and Efficient Network Traffic Processor Deployment,” A. D. Amicangioli, R. Y. Chow and D. J. Yates, December 2001. [I6us]

E.P. 1,116,113, “Extending Network Services Using Mobile Agents,” A. A. Heddaya, K. T. Lewis, S. A. Mirdad, D. J. Yates and I. C. Yates, July 2001. [I5ep]

W.O. 2,001,031,512, “Fast Indexing of Web Objects,” N. S. Sonawane, W. J. Carpenter, D. J. Yates and A. A. Heddaya, May 2001. [I4wo]

U.S. 6,205,481, “Protocol for Distributing Fresh Content among Networked Cache Servers,” A. A. Heddaya, S. A. Mirdad, D. J. Yates and I. C. Yates, March 2001. [I3us]

- E.P. 1,076,978, “Protocol for Distributing Fresh Content among Networked Cache Servers,” A. A. Heddaya, S. A. Mirdad, D. J. Yates and I. C. Yates, February 2001. [[I3ep](#)]
- U.S. 6,167,438, “Method and System for Distributed Caching, Prefetching and Replication,” D. J. Yates, A. A. Heddaya and S. A. Mirdad, December 2000. [[I1us](#)]
- W.O. 2,000,060,825, “Connection Pass-Through to Optimize Server Performance,” D. J. Yates, A. D. Amicangioli, A. A. Heddaya, W. Y. Tao, S. A. Mirdad, I. C. Yates, J. P. Fariborz, D. E. Dukinfield, October 2000. [[I2wo](#)]
- E.P. 0,983,558, “A Method and System for Distributed Caching, Prefetching and Replication,” S. A. Mirdad, A. A. Heddaya and D. J. Yates, March 2000. [[I1ep](#)]

TECHNICAL REPORTS

- D. J. Yates, “Scalable Data Delivery for Networked Servers and Wireless Sensor Networks” (Ph.D. Thesis), Department of Computer Science, University of Massachusetts, Amherst, MA, February 2006. [[R3](#)]
- D. J. Yates, V. Almeida and J. M. Almeida, “On the Interaction between an Operating System and a Web Server,” Computer Science Department (97-012), Boston University, Boston, MA, July 1997. [[R2](#)]
- D. J. Yates, J. F. Kurose, D. Towsley and M. G. Hluchyj, “On Per-Session End-to-End Delay and the Call Admission Problem for Real-Time Applications with QOS Requirements,” Department of Computer Science (93-20), University of Massachusetts, Amherst, MA, May 1994. [[R1](#)]

EXPERIENCE

- CSL Consulting** Burlington, MA
Consultant, Technology Strategy for Competitive Advantage 2011-present
 Partnered with consultants in people and process areas to perform people, process and technology assessment for construction project management & mitigation company. Identified technology development options to enable stakeholder-focused relationship management and project-based collaboration and also to improve document & knowledge management. Conducted risk-driven assessment of information technology security, reliability and business continuity.
- Bentley University** Waltham, MA
Associate Professor, Department of Computer Information Systems 2011-present
Assistant Professor 2005-2011
 Directed and performed computer networking and communications research in a several areas, from networked devices (e.g., embedded sensors and actuators) to networked societies. Specifically, directed and performed research in mobile applications, diffusion of broadband networks, pervasive sensing systems, information and communication systems design, on-line governance and digital inclusion. Secured grants for both research and infrastructure. Taught undergraduate and graduate courses in computer networking, data communications, databases and enterprise applications. Co-authored six journal articles [[TP-2012 – IJTKS-2008](#)], five book chapters [[DEIS-2012 – WMSND-2009](#)], twenty two papers and presentations for conferences and workshops [[ICDPP-2013 – ICTKS-2008](#) and [SCDTF-2011 – PerSeNS-2007](#)], and also delivered twelve invited talks [[T20 – T9](#)].
- University of Massachusetts** Amherst, MA
Research Scientist, Sensor Networks Research Group 2003–2005
 Evaluated the performance impact of implementation alternatives for distributed storage and networking for wireless sensor networks. Investigated the benefits and costs of caching and prefetching for sensor network-based applications in which data is disseminated from

sensor fields to the driving applications. Determined how well different data management approaches perform in the query quality versus cost trade-off. Organized and helped run a graduate seminar in sensor networks. Co-authored a workshop paper [CASARW-2004], two advanced web technology tutorials [T5, T4], and also delivered three invited talks [T8 – T6].

InfoLibria

Waltham, MA

Vice President, Software Development

1997-2003

Led and managed software development at InfoLibria from company founding through acquisition. Performed research and development in content distribution and delivery. Developed technology plan and product architecture based on (i) research to improve the way content moved within and across the Internet; and (ii) key market requirements. Delivered and executed product development plans for all three of InfoLibria's products: DynaCache, MediaMall and Content Commander. Designed and developed distributed web caching software for DynaCache. Created architecture and managed development for subsequent streaming media and content distribution product suite. Provided technology and product information to private investors and venture capitalists through multiple rounds of financing that raised more than \$123 million. Managed engineering and development teams of up to 30 people for major product releases and smaller teams for vertical-market extensions to products (e.g., distributed multimedia training and satellite-based content distribution). Consulted with customers and partners on leveraging InfoLibria's technology to enable new applications and services for their business. InfoLibria's major customers included AT&T, BT, GE, Caterpillar, Mitsubishi and PanAmSat. Partners included Apple, Microsoft, Nortel and Real Networks.

Boston University

Boston, MA

Assistant Professor, Department of Computer Science

1996-1997

Directed research in web server architecture and performance. Directed and performed research in distributed algorithms for caching, prefetching and replication. This latter research became the foundation for InfoLibria's commercial technology [I7us – I1ep]. Secured grants for both research and infrastructure. Co-Principal Investigator for NSF Grant "Commonwealth: Architecture and Protocols for Scalable WWW Services" for \$590,000. Taught undergraduate and graduate courses in computer systems, computer networking, operating systems, and computer organization. Co-authored one journal article [FMJ-1997] and four papers for conferences and workshops [METRICS-1997, HPN-1997 and TR&D-1997, IWCW-1997].

University of Massachusetts

Amherst, MA

Research Assistant, Computer Networks Research Group

1990-1996

Evaluated the performance impact of implementation alternatives for connection-level parallel TCP/IP and UDP/IP protocols (where packets from different connections are processed in parallel). Designed and implemented connection-level parallel x -kernel for Silicon Graphics shared-memory multiprocessors. Quantitatively evaluated end-to-end delay bounds produced by various bounding techniques with per-call delays seen in a simulated network. Using these bounding techniques, compared call admission policies with an Oracle call admission policy (with perfect knowledge of delay distributions experienced by already-admitted sessions). Wrote one journal article [JHSN-1994], five papers for conferences and workshops [METRICS-1996 – SIGCOMM-1993 and HPCS-1995], and also gave three invited talks [T3 – T1].

University of Massachusetts

Amherst, MA

Teaching Assistant, Department of Computer Science

1990

Developed material and lectured for introductory programming course. Tutored students during weekly office hours. Supervised graders for homework and programming assignments.

Applitek Corporation

Wakefield, MA

Senior Software Engineer

1984–1988

Designed and developed real-time software for Local Area Networking products. Responsible for software and documentation from requirement's definition through testing. Trained field support personnel on new and future product applications. Protocols include FTP, TCP/IP, RIP, Ethernet and ARP.

Advanced Mechanical Technology, Inc.

Newton, MA

Software Engineer

1982–1984

Designed and developed scientific software for computerized force instrumentation product line. Responsible for software and documentation from design through installation and maintenance. Provided extensive technical support to marketing and sales. Programmed Personal Computer hardware to perform data acquisition and graphics display on various graphics and hard-copy devices.

AWARDS AND HONORS

“Understanding the Impact of Political Structure, Governance and Public Policy on e-Government” paper at the *Forty-Fifth Hawaii International Conference on System Sciences [HICSS-2012]* was selected as the best of 12 submitted papers in the Services and Information topic area. Consequently, this paper was nominated for a Best Paper Award in the E-Government track at HICSS 2012. (Bentley)

Joined Beta Gamma Sigma in 2011. Beta Gamma Sigma is the international honor society serving business programs accredited by AACSB. (Bentley)

“Different Paths to Broadband Access: The Impact of Governance and Policy on Broadband Diffusion in the Developed and Developing Worlds” paper at the *Forty-Forth Hawaii International Conference on System Sciences [HICSS-2011]* received the Best Paper Award in the Digital Media: Content and Communication track. More than 35 papers were submitted to this track at HICSS 2011. (Bentley)

“Explaining the Global Digital Divide: The Impact of Public Policy Initiatives on Digital Opportunity and ICT Development” paper at the *Forty-Third Hawaii International Conference on System Sciences [HICSS-2010]* was selected as the best of 15 submitted papers in the Digital Divide / Digital Inclusion topic area. Consequently, this paper was nominated for a Best Paper Award in the Digital Media track at HICSS 2010. (Bentley)

“Data Quality and Query Cost in Pervasive Sensing Systems” article [*PM CJ-2008*] was one of four journal articles or books published in 2005-2008 to receive a Bentley University Outstanding Scholarly Contribution Award in 2009. (Bentley)

Elected Secretary of IEEE Communication Society Technical Committee on Enterprise Networking and Services. (Bentley, 2007)

Streaming Media Product of the Year, *Network Magazine*. (InfoLibria, 2000)

Hot Product of 1999, *Data Communications Magazine*. (InfoLibria)

Top 25 Hot Startups in 1998, *Data Communications Magazine*. (InfoLibria)

Hottest Startup in 1998, *Massachusetts Interactive Media Council*. (InfoLibria)

Awarded Motorola Partnership in Research Fellowship. (University of Massachusetts)

PROFESSIONAL SERVICE

Technical Program Committee member for *Hawaii International Conference on System Sciences (HICSS)*. (2011-present)

Mini-track Co-chair at *HICSS*. (2012-present)

Technical Program Committee member for *IEEE International Conference on Pervasive Computing and Communications (PerCom)*. (2009-2010)

Chaired session at *IEEE PerCom Conference*. (2009)

Technical Program Committee member for *IEEE International Conference on Enterprise Networking and Services (EntNet)*. (2007-present)

Chaired panels and presented research-in-progress at *IEEE EntNet Conference*. (2007-2009)

Invited to National Science Foundation (NSF) workshop on *Future Directions in Networked Sensing Systems: Fundamentals and Applications*, Washington, DC, November 2009.

Technical Program Committee member for *USENIX/ACM Symposium on Computer-Human Interaction for Management of Information Technology (CHIMIT)*. (2009)

Technical Program Committee member for *IEEE Workshop on Information Quality and Quality of Service for Pervasive Computing (IQ2S)*. (2010-2011)

Technical Program Committee member for *IEEE Workshop on Sensor Networks and Systems for Pervasive Computing (PerSeNS)*. (2008-2009)

Publicity co-chair for *IEEE PerSeNS Workshop*. (2009)

Program Committee member for *International Conference on Information Quality (ICIQ)*. (2007-2008)

Bentley University *Sustainability Task Force* member and contributor to Bentley's plan to be carbon neutral by 2030. (2009-present)

Bentley University *Master of Science in Information Technology (MSIT)* Graduate Program Director. (2010-2012)

Bentley University *Professional MBA Review Task Force*. (2010-2011)

Bentley University *Board of Trustees Information Services Committee* member. (2009-2011)

Research and Scholarly Activity Committee member for Bentley *Computer Information Systems (CIS) Department*. (2008-present)

Marketing Committee member for Bentley University *CIS Department*. (2007-present)

Member of curriculum committees to revise Bentley MS in Information Technology and BS in Computer Information Systems for *CIS Department*. (ad hoc committees, 2006-present)

Reviewed articles, chapters and papers for:

ACM Transactions on Multimedia Computing, Communications and Applications (journal)

Comparative E-Government: An Examination of E-Government across Countries (book)

Computer Communications (journal)

Electronic Government: An International Journal

IEEE/ACM Transactions on Networking (journal)

IEEE Journal on Selected Areas in Communications

IEEE Transactions on Communications (journal)

IEEE Transactions on Parallel and Distributed Systems (journal)

The Information Society: An International Journal

The Architecture of Computer Hardware, Systems Software, & Networking: An Information Technology Approach, 4th Edition (book)

Intelligent Techniques for Warehousing and Mining Sensor Network Data (book)

International Journal of Technology, Knowledge, and Society

Journal of High Speed Networks
Pervasive and Mobile Computing (journal)
Politics, Democracy and E-Government: Participation and Service Delivery (book)
ACM Special Interest Group for the Computer Systems Performance Evaluation
Community (SIGMETRICS)
ACM Special Interest Group on Data Communications (SIGCOMM)
European Conference on Information Systems (ECIS)
Hawaii International Conference on System Sciences (HICSS)
International Conference on Information Quality (ICIQ)
International Conference on Information Systems (ICIS)
International Conference on Technology, Knowledge, and Society (ICTKS)
IEEE Global Communications Conference (GLOBECOM)
IEEE International Conference on Communications (ICC)
IEEE International Conference on Computer Communications (INFOCOM)
IEEE International Conference on Enterprise Networking and Services (EntNet)
IEEE International Conference on Pervasive Computing and Communications (PerCom)
IEEE Workshop on Information Quality and Quality of Service for Pervasive Computing
(IQ2S)
IEEE Workshop on Mobile Peer-to-Peer Computing (MP2P)
IEEE Workshop on Sensor Networks and Systems for Pervasive Computing (PerSeNS)
USENIX/ACM Symposium on Computer-Human Interaction for Management of
Information Technology (CHIMIT)

PROFESSIONAL AFFILIATIONS

Association for Computing Machinery (ACM)
Association for Information Systems (AIS)
Beta Gamma Sigma (BGS)
Institute of Electrical and Electronics Engineers (IEEE)