

# Nalini Venkatasubramanian

Department of Computer Science  
Donald Bren Hall 2086,  
University of California, Irvine  
Irvine, CA 92697-3435  
Email: [nalini@uci.edu](mailto:nalini@uci.edu) Tel: (949) 824-5898  
URL: <https://nalini.ics.uci.edu/>

## Research Interests

Distributed Systems, Middleware, Cyberphysical Systems, Internet-of-Things, Mobile and Pervasive Computing, Formal Methods, Data Management

## Education

### **Ph.D. - Computer Science**

University of Illinois at Urbana-Champaign, 1998

Thesis Title - *An Adaptive Resource Management Architecture for Global Distributed Computing*

Advisor: Prof. Gul A. Agha.

### **M.S. - Computer Science**

University of Illinois at Urbana-Champaign, 1991

Thesis Title - *Hierarchical Garbage Collection in Scalable Distributed Systems*

### **B.E. - Computer Science and Engineering**

University Visvesvaraya College of Engineering, Bangalore University, 1989

## Employment

*1998 – Present*

### **Professor (2008 – present)**

School of Information and Computer Sciences, University of California, Irvine

### **Associate Professor (2004-2008)**

School of Information and Computer Sciences, University of California, Irvine

### **Assistant Professor (1998-2004)**

School of Information & Computer Sciences, University of California, Irvine

**Director**, IoTCity NSF Site REU Program (2017 - present)

**Co-Director**, Center for Emergency Response Technologies (Jan 2022 - current)

**Director**, Networked Systems Program (2015-2017)

**Co-Director**, Networked Systems Program (2010-2011, 2013-2014)

**Equity Advisor**, School of ICS (2014-2017)

**Decade Graduate Mentor**, Graduate Programs in Computer Science/Networked Systems/Transportation Science (2018- 2021)

**Faculty**, Center for Emergency Response Technologies (CERT)

Faculty, Institute for Future Health

Advisory Committee, Sustainability Research Center, UCI

Advisory Committee, Broadening Participation in Computing, School of ICS

*Fall Quarter, 1997*

**Visiting Lecturer**, Department of Computer Science, University of Illinois at Urbana-Champaign, (on leave of absence from HP Labs).

- 1994 – 1998*                    **Member of Technical Staff**  
Hewlett-Packard Laboratories, Palo Alto. Media Server Research Group, Broadband Information Systems Lab and E-Services Research Group, Future Systems Department.
- 1991 – 1994*                    **Software Design Engineer**  
Hewlett-Packard, Cupertino  
Object-Oriented Database Lab, Cooperative Computing Systems Lab
- Spring, 1991*                    **Research Assistant,**  
Open Systems Laboratory, Dept. of Computer Science, University of Illinois at Urbana-Champaign
- Summer, 1990*                    **Summer Intern**  
IBM T.J. Watson Research Center
- 1989-1990*                    **Teaching Assistant**  
Dept. of Computer Science, University of Illinois at Urbana-Champaign, for a grad/senior UG course on advanced computer architectures

## Awards

- National Science Foundation Career Award, Networking Research Program, 1999.
- Teaching Excellence Award, Division of Undergraduate Education, University of California, Irvine, 2002.
- Best Paper Award, [IEEE Consumer, Communications and Networking Conference \(CCN\), 2006](#)
- Best Student Paper Award, IEEE Workshop on Multimodal Sentient Computing: Sensors, Algorithms and Systems (WMSC 2007) held in conjunction with CVPR 2007 conference.
- Best Student Poster Award, in the IEEE/ACM 11th International Symposium on Cluster, Cloud and Grid Computing (CCGRID2011) Newport Beach, May 2011, USA. *Cloud Based Framework for Rich Content Mobile Applications*
- Dean's Award for Undergraduate Teaching, University of California, Irvine, 2014.
- Dean's Award for Service, University of California, Irvine, 2015
- US IGNITE Extreme Software Defined Networking (SDN) Challenge - 1st Prize, Team DSM, 2015
- 2016 NCWIT Extension Services Transformation (NEXT) Award for Excellence in Promoting Women in Undergraduate Computing. With Drs. Artis, Blackwell, Regan, Richardson, Venkatasubramanian, and Ms. Rewal.
- Best Paper Nominee, IEEE Intl. Conf. on Smart Computing (SMARTCOMP) 2016.
- Best Paper Award, IEEE Intl. Conf. on Cloud Computing Technology and Science (CloudCOM) 2017.
- Best-in-Session Presentation Award, IEEE InfoCOM 2018.
- Best Paper Award, 37th IEEE International Symposium on Reliable Distributed Systems (SRDS), 2018.
- Best Paper Award, The 18th IEEE International Symposium on Network Computing and Applications (NCA), 2019.

- Best Paper Award, IEEE Intl. Conf. on Smart Computing (SmartCOMP) 2020.
- N<sup>2</sup>Women: Stars in Computer Networking and Communications in 2020 (IEEE Communications Society, IEEE Computer Society), 2020.
- NAVWAR Award, “TIPPERS Transition to the Navy”, 2021.
- ACM Distinguished Member, 2021.
- Mark Weiser Best Paper Award, IEEE Intl. Conf. on Pervasive Computing and Communications (PERCOM) 2022.

### **Selected Professional Activities and Invited Talks**

- Steering Committee Member: ACM/IFIP/USENIX Middleware (2007-2010, 2022-2025), ACM Adaptive and Reflective Middleware (ARM) Workshop Series, IEEE/ACM Cluster, Cloud and Grid Computing (CCGRID), ACM Mobile Video Workshop Series (MoVid), ACM Distributed Event-Based Systems (2017- 2020),
- Editorial Board, ACM Transactions on CyberPhysical Systems (2022-current), ACM Transactions on Autonomous and Adaptive Systems (2021-current), Elsevier Journal on Sustainable Computing: Informatics and Systems, (2015-current), IEEE Transactions on Mobile Computing (2008-2014), INFORMS Service Science Journal (2015-2017), Journal of Database Management
- Keynote Speaker, International Conference on Big Data and Disaster Response in Asia and the Pacific, Sendai, Japan, Feb 2024.
- Invited Speaker, 2nd International Conference on Environmental Sustainability through Waste and Recycling (ENSURE-2024), March 2024.
- Organizing Committee, National Science Foundation Smart and Connected Communities Program PI Meeting, Vanderbilt University, Feb 2024.
- Invited Panelist, NSF Workshop on Grand Challenges in Resilience, Panel Title: “*Role of Resilience in CyberPhysical Systems*”, Purdue University, Nov 13-15, 2023.
- General Co- Chair, ACM/IEEE Intl. Conference on CyberPhysical Systems, 2023.
- Invited Speaker, NFPA Women in STEM, National Fire Protection Association (NFPA) Annual Conference and Expo, Las Vegas, June 2023.
- Invited Panelist, Distinguished Expert Panel on “*Intelligent Management for Enabling the Digital Transformation*”, IEEE Asia-Pacific Network Operations and Management Symposium, Sejong, Korea, Sept 2023.
- Invited Panelist, Plenary Panel, “*Deploying Smart Computing Technology to Meet Diverse Community Needs*”, IEEE Smartcomp 2023, Nashville, USA, June 2023
- Invited Roundtable Speaker, NSF Workshop on “*Enabling and Sustaining Connected Communities Rooted in Solving Societal Challenges*”, CMU, Feb 2023.
- Keynote Speaker, 15th IEEE/ACM International Conference on Utility and Cloud Computing (UCC2022) and 9th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT2022), Dec 2022.
- Invited Panelist, NSF/MetroLab Civic Innovations Challenge 2022 Kickoff, Dec 2022

- Invited Speaker and Panelist, US-EU Workshop on *Computing in the Continuum*, Nov 2022
- Invited Speaker and Panelist, 40th Anniversary of the Fire Protection Research Foundation, Talk Title: “*CAREDEX - Enabling Disaster Resilience in Aging Communities via a Secure Data Exchange*”, August 2022.
- Invited Talk, Suppression, Detection and Signaling Research and Applications Conference (SUPDET 2022), Talk Title: “*CAREDEX - Enabling Disaster Resilience in Aging Communities via a Secure Data Exchange*”, Sept 2022.
- Invited Speaker, Qualitrol Tech Day, August 2022. Talk Title: “*Digital Twins for Smart Infrastructure*”, August 2022.
- Invited Speaker/Panelist, 7th Annual CA Water Data Summit, August 18 2022. Talk Title: *SWADE (A SmartWater Data Exchange)*. August 2022
- Keynote Speaker, IEEE International Conference on Mobile Data Management 2022. Talk Title: “*Mobility and its Role in Enabling Cyber-Physical-Human Infrastructures.*”, June 2022.
- Invited Panelist, MetroLabs Summit, June 2022
- Invited Panelist, IEEE SmartCOMP 2022, June 2022
- Program Co-Chair, ACM/IEEE Intl. Conference on CyberPhysical Systems, 2022.
- Invited Panelist, "Control for Climate Change Solutions", American Control Conference 2022 (to be held in Atlanta, GA), June 2022.
- Invited Panelist, “Building Lifelines into the Future”, American Society of Civil Engineers Lifelines Conference, UCLA, Feb 2022.
- Invited Panelist, MetroLabs/NSF CIVIC Innovations Challenge - Sustainability, Jan 2022.
- Invited Panelist - “*Pandemic 2023: An Information Technology Retrospective*”, Joint Plenary panel of co-located conferences, IEEE CIC/ IEEE CogMI/ IEEE TPS (IEEE International Conference on Collaboration and Internet Computing (IEEE CIC); IEEE International Conference on Cognitive Machine Intelligence (CogMI); and IEEE International Conference on Trust, Privacy and Security of Intelligent Systems and Applications (IEEE TPS), Dec 2021
- Program Co-chair, ACM Middleware 2021, Quebec City, Dec 2021
- Spotlight Speaker, NSF AccelNet Workshop on Artificial Intelligence for Healthy Buildings (IN2WIBE), Nov 2021.
- General Co-Chair, IEEE SmartCOMP 2021, Irvine, CA. August 2021
- Invited Panelist, Institute for Future Health, Panel on Aging2.0 - How information Technology can Help, 2021
- Keynote Speaker, International Water Sustainability Symposium (IWSS) 2021
- Invited Distinguished Speaker, 2021. Chonnam National University, Korea, 2021.
- Invited Speaker. 2020 Smart IoT Webinars, National Tsinghua University, Taiwan, Nov 2020
- Invited Seminar Speaker. Missouri Science and Technology University. 2020
- Invited Participant, Workshop on MidScale Research on Data for Water, Princeton University, August 2020

- CalBridge CS Steering Committee, 2020
- Advisory Committee Member, Sustainability Resource Group, UCI
- Keynote Speaker, Federated Workshops, ACM Middleware, Dec 2019
- Keynote Speaker, Services Conference Federation, June 2019
- Invited participant, AI in Disasters, Nov 2019
- Invited Panelist, Workshop on Smart Communities, NSF CPS PI Meeting
- Program co-chair, ACM TESCA Workshop, ACM BuildSys 2019
- Invited Panelist, IEEE SmartCOMP 2019, June 2019
- Invited Speaker, UC Wildfires Symposium, 2019
- Invited Seminar Speaker, Center for Cyberphysical Systems, USC, March 2019
- Area Track co-Chair, Web of Things, Ubiquitous, and Mobile Computing, The WebConf 2019.
- Test-of-Time Awards Chair, ACM Middleware (2017, 2018, 2019).
- Invited Seminar Speaker, Dept. of CSEE, Vanderbilt University, Feb 2019
- Invited talk, USC IoT consortium event, Jan 2019
- Invited talk and panelist, Workshop on Data-Driven Decision Making - Managing Stormwater in the Data Digital Age, Annual Meeting of the California Stormwater Quality Association (CASQA) 2018, Talk Title: - "*Exploring Resilience of Community Water Systems - A Data Driven Approach*", 2018.
- Invited Panelist, American Association for the Advancement of Science (AAAS) Annual Meeting, 2018 - "*Intelligent Infrastructure for Disaster Management and Public Safety*", Feb 2018.
- General co-chair, IEEE SMARTCOMP 2018, Taormina, Italy, June 2018.
- Plenary Panel Co-chair and Moderator, "*Challenges in Enabling Effective Smart Cities and Communities: Global Perspectives*", IEEE Smart Computing Conference, 2018.
- Track Organizer and Co-Chair, Special Session on IoT Connectivity and Infrastructure (IoTCon), ACM Intl. Conference on Multimedia Systems (MMSys) 2018
- Keynote Talk, ACM Workshop on Adaptive and Reflective Middleware, ACM Middleware 2017.
- Invited introductory talk, Smart and Connected Communities Researchers' Summit, US IGNITE Smart Cities Meeting, Austin, June 2017.
- Invited talk and participant, US-INRIA Joint Workshop, UC Berkeley, June 2017
- Invited talk and participant, US-Japan Joint Workshop, Atlanta, June 2017
- Track co-Chair, Multimedia and Real-time Networking Track, IEEE ICCCN 2017
- Track Organizer and Co-Chair, Special Session on IoT Connectivity and Infrastructure (IoTCon), ACM Multimedia Systems (MMSys) 2017
- Invited Speaker, CalState Los Angeles NASA Direct-STEM Multidisciplinary Seminar Speaker, 2017
- Invited Speaker, Women in Data Science and Engineering, IEEE Intl. Conference on Data Engineering (ICDE) 2017

- Program Co-chair, ACM Symposium on Distributed Event Based Systems (DEBS) 2016
- Invited Participant and Speaker, JST-NSF International Joint Symposium on Big Data, AI, IoT, Cyber Security for a New Society, Tokyo, Nov 2016 Talk Title: “Enabling Resilient Smart Community Infrastructure – A Middleware Approach”.
- Invited Participant and Speaker, Japan/US Trustworthy Networking Workshop, San Francisco, Mar 2016, Talk Title: Multinetworking for IoT Based Resilient Communities,
- Invited Participant and Speaker, NII Shonan Meeting on “Big Data: Challenges and Opportunities for Disaster Recovery”, Shonan Village Center, Japan, March 2016, Talk Title: “Resilience and Dependability in Challenged Environments”
- Invited Panel Speaker, US-Europe Joint Workshop on Next Generation Internet-of-Things, USC, March 2016, Panel on Middleware and Software Engineering, Talk Title:
- Invited Participant and Speaker: 2016 NSF Visioning Workshop on Smart and Connected Communities Research and Education, January 2016, Seattle, USA. Talk Title:
- Invited Participant, US-German Joint Workshop on the Internet of Things (IoT) and Cyber-Physical Systems (CPS), January 2016.
- Invited Speaker, NSF Cyber-Physical Systems PI Meeting, October 2016
- Featured Speaker, ICS Leadership Council, UC Irvine, Nov 2016
- Invited Speaker, IEEE SmartCOMP 2016, Jun 2016
- Invited Speaker, NSF/Morocco Workshop on Smart Cities, 2016
- Invited Panelist, ACM Adaptive and Reflective Middleware Workshop Series, 2015.
- Invited Speaker, NSF Cyber-Physical Systems PI Meeting, November 2015
- Invited Participant and Member of NIST Community Resilience Panel, November 2015
- Invited Panelist, NIST/NFPA Smart Home Workshop, October 2015
- Program co-chair, IEEE Symposium on Reliable Distributed Systems (SRDS) 2015, Oct 2015.
- Invited Panelist, Doctoral Symposium, IEEE Symposium on Reliable Distributed Systems (SRDS) 2015
- Editorial Board – INFORMS Service Science Journal, 2015-2017
- Invited Speaker, US IGNITE Application Summit, 2015
- Invited Participant, NIST Disaster Resilience Workshop Series, April 2014 – March 2015
- Invited Speaker, NIST/US IGNITE Global Cities Challenge, Washington D.C. June 2015 Talk title: Project SCALE: Smart Community Awareness and Alerting
- Invited Panelist, Technology Innovators Forum, May 2015
- Area Chair, Distributed OS and Middleware Track – ICDCS 2015
- Featured Speaker: Bay Area Alumni Event for UCI , March 2015
- Tutorials Co-Chair, ACM DEBS 2015
- Invited Graduate Program Reviewer, Dept. of Computer Science, University of Saskatchewan, Canada, March 2015

- Invited Speaker, Workshop on Adaptive and Reflective Middleware, December 2014
- Coordinator, Roundtable discussion on Smart Communities, Workshop on Adaptive and Reflective Middleware Workshop, December 2014
- Invited Panelist, Panel on “Transdisciplinary Fundamental Research Problems: examples of Rigor in Service Science Research and Convergence of Cognitive/Behavioral Science and Computer Science with Engineering, MIT-NSF Workshop: Smarter Service Systems through Innovation Partnerships and Transdisciplinary Research, Boston, November 2014
- Invited Working Group Member, Special Group on Directions for EFRI, NSF Smart Service Systems, Jan 2015. Invited to participate as a thought-leader in Smart Cities at a closed event at MIT on Future Interdisciplinary Research towards setting a Smart Service Systems Fundamental Research agenda, November 2014
- Invited Participant, NIST Global Smart Cities Challenge Kickoff event, September 2014.
- Invited Panelist, Panel on Global SmartCities, NSF CyberPhysical Systems PS PI Meeting, Washington, D.C., November 2014
- Invited Participant, NSF Workshop on Extensible Distributed Systems, Washington D.C. 2014
- Invited speaker, US IGNITE Application Summit 2014, Silicon Valley, June 2014. US Ignite was established by the WhiteHouse Office of Science and Technology Policy and the National Science Foundation to foster the creation of next generation Internet applications that provide transformative public benefit.
- Invited Panel Organizer and Panel Speaker, Panel Title: “*Internet of Broken Things*”, USENIX Workshop on Hot Areas in Dependability (HotDep 2014), held in conjunction with USENIX OSDI (Operating Systems Design and Implementation), October 2014
- Invited Speaker, Restricted White House Preview on SmartAmerica Projects (selected projects), June 2014. Discussed issues with policy experts in WhiteHouse and Congressional Staff.  
[https://www.ics.uci.edu/community/news/spotlight/spotlight\\_nalini\\_smartamerica.php](https://www.ics.uci.edu/community/news/spotlight/spotlight_nalini_smartamerica.php)
- Invited Panelist and Speaker, NIST Workshop on Smart Firefighting, March 2014 and Oct 2014. This is an event involving members of the fire practice and invited experts in cyberphysical systems to develop and agenda for next generation firefighting systems. Also invited to co-author a book chapter on “Use of Data for the Fire Practice” in a NIST book with Fire Chief Paul Siebert, City of Frisco, Texas.
- Invited participant, White House/NIST SmartAmerica Tech Jam, February 2014
- Invited participant, White House/NIST Workshop on SmartAmerica, December 2013
- Invited moderator, NSF Workshop on CyberPhysical Transportation Systems, January 2014
- Invited Session coordinator and Speaker – Special Session on Mobile Crowdsensing, ACM Design Automation Conference, 2014
- Invited Speaker, IEEE ICNC 2014, **Talk Title: *Software Defined Cyberphysical Multinetworks***.
- Invited Panelist. NSF Workshop on CPS Cloud, 2013
- Doctoral Symposium co-Chair – ACM DEBS 2014
- Workshops Co-Chair, IEEE International Conference on Distributed Computing and Networking 2013
- Work-in-Progress Chair, IEEE International Conference on CyberPhysical Systems (ICCPS) 2013

- Keynote Speaker, IEEE Globecom Workshop on Rural Communications, 2013. ***Talk Title: Resilient Multinetwork Communications in Challenged Environments: A Middleware Approach***
- Invited Speaker. IEEE Advanced Networking Technologies and Systems (ANTS 2012)
- Program Co-Chair, 1<sup>st</sup> IEEE Workshop on Reliable CyberPhysical Systems held in conjunction with 31<sup>st</sup> IEEE Symposium on Reliable Distributed Systems (SRDS 2012)
- Area Chair, ACM Multimedia 2012
- Program Co-Chair, 13th IEEE International Conference on Mobile Data Management (MDM 2012)
- Publications Chair, IEEE Intl. Conference on CyberPhysical Systems (ICCPS), 2012
- Invited Speaker, ACM Multimedia Women, 2011
- Invited Speaker, Future of Middleware Event, ACM/IFIP/USENIX Middleware 2011, ***“Talk Title: Resilience in CyberPhysical Systems”***, Lisbon, Portugal, December 2011
- Invited Panelist, National Academy of Sciences Workshop on National Resilience to Hazards and Disasters, May 2011
- Program Co-Chair, NSF Indo-US Workshops on Pervasive Communications and Computing (PC3) – March 2011, New Delhi; July 2011, Washington D.C.
- Invited Speaker, Schools on Formal Methods (SFM) Series, Interoperability in Complex Distributed Systems, ***“Talk Title: Interoperability in CyberPhysical Spaces”***, Bertinoro (Italy), June 2011
- Keynote Speaker, ACM Middleware Doctoral Dissertation Symposium, December 2010
- Invited Speaker, Networking Networking women held in conjunction with ACM MobiCOM/MobiHOC 2010
- Editorial Board – Elsevier Journal on Sustainable Computing: Informatics and Systems, 2011-present
- General Co-Chair, 11th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2011).
- Program Co-Chair, Third International ICST Conference on MOBILE Wireless MiddleWARE, Operating Systems, and Applications (MobilWare 2011).
- Co-editor, Special Issue of Springer Journal on Internet Systems and Applications (JISA) on Networking and Distributed Computing Challenges in CyberPhysical Systems, 2011.
- Co-editor, Special Issue of IEEE Communications on Middleware for Communication Networks, to appear 2011.
- Invited Panelist, National Academy of Sciences Workshop on Mobile Alerting, April 2010.
- Program Co-chair, 9<sup>th</sup> Workshop on Adaptive and Reflective Middleware to be held with ACM Middleware 2010 (ARM 2010).
- Program Co-chair, ACM MOVID 2010, 2<sup>nd</sup> Workshop on Mobile Video Delivery to be held in conjunction with ACM Multimedia 2010.



- Program Co-chair, IEEE International Conference on Service-Oriented Computing and Applications 2010 (SOCA 2010).
- Panel Co-chair, 11th International Conference on Mobile Data Management (MDM 2010).
- Breakout Session Co-Chair, Community Response, DHS Emergency Management Workshop (EMWS 2009).
- Area Co-Chair, Networks and Protocols track, IEEE International Conference on Distributed Computing Systems (ICDCS 2010).
- Panel Chair, Adaptive Middleware for Cyberphysical Systems, Workshop on Adaptive and Reflective Middleware at ARM 2009 held with ACM Middleware 2009.
- Program Co-Chair, IEEE Symposium on World of Wireless and Mobile Multimedia 2008 (WoWMoM 2008).
- General Chair, ACM/IFIP/USENIX Middleware 2007.
- Workshop Co-Organizer, Workshop on Reflective and Adaptive Middleware held with ACM Middleware - 2007, 2008, 2009
- Associate Editor, IEEE Transactions on Mobile Computing, 2008-2011.
- Commercial Tracks Co-chair, IEEE International Parallel and Distributed Processing Symposium, IPDPS 2007.
- Calit2 Igniting Technology Series Talk, “Customized Dissemination in the Large”, March 2007.
- Program Co-Chair, Workshop on Adaptive and Reflective Middleware, ACM Middleware 2006.
- Workshop Co-Organizer, Workshop on Reflective and Adaptive Middleware, ACM Middleware 2005.
- Workshop Co-Organizer, Workshop on Reflective and Adaptive Middleware, ACM Middleware 2004.
- Short Papers Chair, ACM Multimedia 2006.
- Invited Talk, Mobiquitous 2005. “Role of Mobile and Ubiquitous Computing in Emergency Response”
- Program Co-Chair, ACM/SPIE Conference on Multimedia Computing and Networking, 2005 (MMCN 2005).
- UCI TechTalk Series, “Multimedia Support for the Homeland Security Domain”, 2004.
- Program Chair, ACM/SPIE Conference on Multimedia Computing and Networking, 2004 (MMCN 2004).
- Invited Talk, Hewlett-Packard Laboratories, “*Composability Issues for Mobile Middleware*”, 2003.
- Invited Talk, UC Mexus Program, “*MIRO: Adaptive Middleware for Mobile Internet Robots*”, 2003.
- Workshop Co-Organizer, Workshop on Reflective and Adaptive Middleware, ACM Middleware 2003.
- Plenary Panel Chair, Panel on Middleware for Sensor Applications, IEEE International Conference on Distributed Computing Systems (ICDCS 2003).
- Tutorial Speaker, Systems Support for Sensor Applications, IEEE High Performance Computing 2003.
- Tutorial Speaker, Platforms and Tools for Multimedia Applications, IEEE DATE 2004.
- Workshop Co-Organizer, Cal-(IT)<sup>2</sup> Workshop on Crisis Response, 2002.
- Program Vice-Chair, IEEE International Conference on Cluster Computing 2001.

- Publications Chair, IEEE International Conference on High Performance Computing 2001 (HiPC 2001).
- Associate Chair, Systems Track of the ACM Multimedia Conference, 2000.
- Invited Talk, OPENSIG 2000 “*CompOSE|Q – A Safe Middleware Framework for Large Scale Distributed Systems*”, October 2000.
- Conference Co-organizer and Program Committee Member IFIP Conference on Formal Methods in Object Based Open Distributed Systems 2000 (FMOODS'2000).
- Publications Chair, IEEE International Conference on High Performance Computing 2000 (HiPC 2000).
- Invited Talk, Digital Media Innovations, UC Santa Barbara, “*A Virtual Reality Enhanced Digital Surveillance System*”, 1999.
- Invited Talk, Novell Chairman Meeting, “*Flexible Middleware for Large Scale Distributed Computing*”, April 1999.
- Publications Chair, IEEE International Conference on High Performance Computing 1999 (HiPC 1999).
- Invited Talk, HRL Colloquium Series, “*Multimedia in Global Distributed Systems*”, February 1999.
- Panelist, “Java and Middleware for High Performance Computing”, IEEE International Parallel and Distributed Processing Symposium (IPDPS 99), “*Middleware Support for High Performance Computing*”, April 1999.
- Invited Talk, Hewlett-Packard Research Laboratories, “*QoS-enabled Customizable Middleware for Global Distributed Computing*”, December 1998.
- Program Co-chair, Mini-track on Distributed Multimedia and Web Collaborations at HICSS '97 with Klara Nahrstedt, UIUC and Atul Prakash, University of Michigan, Ann Arbor.
- Executive Committee Member, University of California Digital Media Innovations (DiMI) program.
- Editorial Review Board Member, Journal of Database Management (JDM).
- NSF Panels and Workshops on Networking Research, Operating Systems and Compilers, CISE Infrastructure, Residential Broadband.
- Member of International Taskforce on “Local Distributed Computing: Technology Assessment, and a Look at What Lies Ahead”, combining academic and industry perspectives on the future of local distributed computing - January 1996.
- Hewlett-Packard representative on technical visits, university research reviews and trade shows.
- Reviewer (journals and conferences): IEEE Transactions on Software Engineering, IEEE Concurrency, ACM Computing Surveys, ACM Multimedia Systems, IEEE Transactions on Parallel and Distributed Technology, Journal of Theory and Practice of Object Systems, ACM Multimedia, EUROPAR, PODC, ICMCS, ICDCS, FMOODS, Parallel Architectures and Languages - Europe.
- NSF/DARPA Next Generation Internet Meeting, “*QoS-enabled Customizable Middleware for Global Distributed Computing*”, October 1999.
- Member - IEEE, Association for Computing Machinery. American Association for the Advancement of Science, American Chemical Society.

## **Outreach talks and activities**

- Invited Guest Speaker, Pathways to Computing for Women of Color, Office of Access and Inclusion, UC Irvine, Jan 2023.
- Invited Panelist, DECADE Bridging the Gap Workshop on Dealing With Failure in Grad School, UC Irvine, May 2021.
- Invited Panelist, “Ask Us Anything Panel for Research Exploration Workshop on IoT and Privacy”, UC Outreach Workshop to UG and community college students, May 22, 2021, UC Irvine
- Invited Panelist, Faculty Admissions Panel, Summer Undergraduate Research Fellowship (SURF) Program July 2020, UC Irvine.
- Coordinator, Women Researchers in Technology, Jan 2020, UCI
- Invited Panelist, Women in Middleware, ACM Middleware, Dec 2019
- Invited Panelist, Networking Networking Women, ACM SenSys 2019, Panel: "From building the first science project to a female role-model", Oct 2019
- Organizer, Women Researchers in Technology (WRIT) Event, May 2019, UCI
- Organizer, 3 day Workshop module on Internet-of-Things and Smart Cities, Explore CSR Workshop on Computing to Change the World for the Better: A Research-Focused Workshop for Women, (Google sponsored), February 22-24, 2019. California State University, Long Beach.
- NASA DIRECT STEM Project with CalState Los Angeles, Summer School Speaker, Workshop Participant
- INSPIRES/ASPIRES invited talk to underrepresented minorities on Research Challenges in IoT and Resilient Communities , UCI
- Roundtable session on graduate school/admissions - [GO-UCI](#) event for under-represented minority students.
- Graduate Women Coffee Roundtable Events – networking graduate students with distinguished faculty speakers.
- Co-organizer, Women Researchers in Technology (WRIT) events - May 2016, Nov 2016
- Invited Speaker, Calit2 Summer Undergraduate Research Fellows Program, UC Irvine.

## **Program Committee Member**

- ACM/IFIP/USENIX Middleware 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2022, 2023, 2024
- IEEE Intl. Conference on Distributed Computing Systems 2001, 2002, 2003, 2005, 2008, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024
- ACM DEBS 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
- IEEE IoT Design and Implementation 2016, 2017, 2018, 2019, 2020
- IEEE SmartComp 2016, 2017, 2018, 2019, 2020, 2022, 2023, 2024
- IEEE Int. Conference on Green and Sustainable Computing Conference (IGSC 2018, 2019, 2020, 2021, 2022)

- ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS) 2019, 2020, 2021, 2024
- IEEE ICDE 2018
- IEEE PerSysT, First International Workshop on Pervasive Systems Integration, to be held in conjunction with The 16th IEEE International Conference on Pervasive Computing and Communications (PerCom 2018)
- IEEE ISORC 2018
- IEEE MDM 2017
- ACM EuroSys 2017, 2019
- IEEE WoWMoM 2015
- IEEE IQ2S 2014, 2016
- IEEE Intl Conf on Pervasive Computing and Communications (PERCOM) 2010, 2011, 2012, 2013,2014, 2015, 2016
- ACM PECS
- IEEE WoWMoM 2014
- IEEE IQ2S 2014.
- IEEE Intl. Conference on Distributed Computing Systems and Networks (ICDCN) 2014.
- ACM Multimedia 2011, 2013, 2017
- IEEE Intl. Symposium on Reliable Distributed Systems (SRDS) 2012, 2013
- ACM Workshop on Adaptive and Reflective Middleware (ARM) 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, held in conjunction with ACM/IFIP/USENIX Middleware
- IEEE SESA 2012
- IEEE CPSCoM 2012
- IEEE ANTS 2012
- ACM COMSNETS 2012
- ,IEEE 2<sup>nd</sup> International Green Computing Conference (IGCC 2011)
- IEEE 12th International Conference on Mobile Data Management, MDM 2011
- International Conference on Body Sensor Networks, BSN 2011
- Workshop on Sensor Enabled Situational Awareness (SESA) to be held in conjunction with the 12th International Conference on Distributed Computing and Networking (ICDCN), 2011.
- Third International Workshop on “Emergency Management: Communication and Computing Platforms” will be held in conjunction with IWCMC 2011.
- 2010 International Conference on Body Sensor Networks (BSN 2010)
- IEEE 11<sup>th</sup> International Conference on Mobile Data Management (MDM 2010)
- The 6th International Wireless Communications and Mobile Computing Conference(IWCMC 2010)

- The Second International Workshop on Information Quality and Quality of Service for Pervasive Computing (IQ2S 2010), in Conjunction with IEEE PERCOM 2010
- ACM SIGKDD Workshop on Intelligence and Security Informatics (ISI-KDD 2010) held in conjunction with ACM KDD 2010
- IEEE 1<sup>st</sup> International Green Computing Conference (IGCC 2010)
- ACM Multimedia 2009
- 2<sup>nd</sup> Workshop on Mobile Video Delivery, MoVID 2009 (held in conjunction with InfoCOM 2009)
- ACM/SPIE Intl. Conf. on Multimedia Computing and Networking (MMCN 2007, 2008, 2009),
- ACM SIGKDD Workshop on CyberSecurity and Intelligence Informatics (CSI-KDD 2009) held in conjunction with ACM KDD 2009
- Workshop on Context-aware Adaptation Mechanisms for Pervasive and Ubiquitous Services" (CAMPUS'08), DisCoTec Federated Series, 2008.
- IEEE Estimedia 2008
- Fourth IEEE International Workshop on Sensor Networks and Systems for Pervasive Computing (PerSenS 2008), held in conjunction with IEEE Percom 2008
- IFIP 2008 International Conference on Embedded and Ubiquitous Computing 2008 (EUC-08)
- IEEE Information Security Informatics (ISI) 2007
- IEEE International Conference on High Performance Computing HiPC 2007
- Sixth IEEE Workshop on Adaptive and Reflective Middleware 2007 in conjunction with ACM Middleware 2007
- IEEE Estimedia 2007 Workshop in conjunction with the IEEE/ACM/IFIP CODES+ISSS 2007 Conference
- IEEE Information Security Informatics (ISI) 2006
- ACM/SPIE Multimedia Computing and Networking 2006 (MMCN'06), San Jose, California
- First IEEE International Workshop on Services and Infrastructure for the Ubiquitous and Mobile Internet (SIUMI 2006) in conjunction with IEEE Intl. Conference on Distributed Computing (ICDCS 2006)
- ACM SAC 2006, Track on Programming for Separation of Concerns
- IEEE International Conference on eScience and Grid Technologies 2005
- IEEE International Conference on Real Time Applications and Systems, Work in Progress Session, RTAS 2005
- ACM Workshop on End-to-End, Sense-and-Respond Systems, Applications, and Services in conjunction with MobiSys '05
- IEEE International Workshop on Next Generation Wireless Networks 2005 (WonGEN) in conjunction with International Conference on High Performance Computing (HIPC 2005)
- Fourth Workshop on Adaptive and Reflective Middleware 2005 in conjunction with ACM Middleware 2005.
- First International Workshop on Services and Infrastructure for the Ubiquitous and Mobile Internet (SIUMI 2005) in conjunction with IEEE Intl. Conference on Distributed Computing (ICDCS 2005)
- IEEE International Workshop on Parallel and Distributed Real-time Systems (WPDRTS 2005) in conjunction with IEEE International Parallel and Distributed Processing Symposium 2004 (IPDPS 2005)

- First International Workshop on Multimedia Service Composition in conjunction with ACM Multimedia 2005 (ACM MM 2005)
- ACM/IFIP/USENIX International Middleware Conference (Middleware) 2004
- IEEE International Workshop on Parallel and Distributed Real-time Systems (WPDRTS 2004) to be held as a part of the IEEE International Parallel and Distributed Processing Symposium 2003 (IPDPS 2004)
- IEEE International Real-Time Systems Symposium (RTSS 2003)
- IFIP International Conference on Formal Methods for Open Object-Based Distributed Systems (FMOODS 2003)
- IEEE International Workshop on Parallel and Distributed Real-time Systems (WPDRTS 2003) to be held as a part of the IEEE International Parallel and Distributed Processing Symposium 2003 (IPDPS 2003)
- International Symposium on Distributed Objects and Applications (DOA) 2003
- ACM Multimedia Conference, 2003
- ACM/IFIP/USENIX International Middleware Conference (Middleware) 2003
- International Symposium on Distributed Objects and Applications (DOA) 2002
- IEEE International Workshop on Parallel and Distributed Real-time Systems (WPDRTS 2002) to be held as a part of the IEEE International Parallel and Distributed Processing Symposium 2002 (IPDPS 2002).
- ACM/SPIE Multimedia Computing and Networking 2002 (MMCN'02), January 18-25, 2002, San Jose, California.
- IFIP International Conference on Formal Methods for Open Object-Based Distributed Systems (FMOODS 2002), March 20-22, 2002, University of Twente.
- 9th IEEE International Conference on Network Protocols (ICNP 2001), Mission Inn, November 11 - 14, 2001, Riverside, California.
- Workshop on Optimizing Middleware, ACM Programming Language Design and Implementation (PLDI 2001).
- International Symposium on Distributed Objects and Applications (DOA) 2001.
- IEEE International Workshop on Parallel and Distributed Real-time Systems (WPDRTS 2001) to be held as a part of the IEEE International Parallel and Distributed Processing Symposium 2001 (IPDPS 2001).
- IEEE International Symposium on Cluster Computing and the Grid, 2001.
- ACM Multimedia Conference, 2000.
- Workshop on Parallel and Distributed Real-time Systems, International Parallel and Distributed Processing Symposium 2000 (IPDPS 2000).

## **Funding**

- PI, NSF CIVIC Innovation Challenge, CaReDeX: Supplemental Award, \$199, 999. 2022-2024.
- Co-PI, NSF Secure and Trustworthy Computing, Collaborative Research: SaTC: CORE: Medium: Compliance as a Service (CaSe): A Reflective Approach to Enforcing User Privacy Regulations, \$743, 087. 2023-2026.
- Co-PI, Industry Grant, Rachio Inc. 150K, 2022 -2024.

- PI, NSF CIVIC Engagement Program, CaReDeX: Enabling Disaster Resilience in Aging Communities via a Secure Data Exchange, 2021- 2024 \$1M.
- UCI PI, NSF Industry-University Collaborative Research Consortium Planning Grant, Center for SmartSpace Research, 2021-2022, \$15K
- Co-PI, School of ICS Exploration Award, GLIDE: A Gestalt Approach to Live Data Engineering, \$75K
- PI, NSF CIVIC, Planning Grant, CaReDeX: Enabling Disaster Resilience in Aging Communities via a Secure Data Exchange, \$50K
- PI, NSF SCC SWADE, Creating an Extensible Data Exchange and Analytics Sandbox for Smart Water infrastructures, 2020 - 2024, \$1.5M
- UCI Co-PI, NSF, EnrichDB: Supporting Enrichment in Database Systems, 2020-2023, \$500K
- UCI Co-PI, NSF RAPID: An Organizational Scale Approach to Privacy-Enabled Contact Tracing in COVID-19, \$100K
- UCI PI, Army Research Labs STTR, “ConnexEdge: A Hierarchical Framework for Resilient Edge Analytics”, Phase 1 with RTI Inc., (Total Award: \$300K, UCI Portion: \$50K, 2020).
- Co-PI, Univ. of CA Office of the President Award, “Transforming Prescribed Fires for California”, UC LabFee Grant, \$3.6M, 2020 - 2023.
- Co-PI, DARPA Brandeis award extension for technology transfer to US Navy - Trident Warrior Exercise 2020. \$300K., 2020 - 2021.
- PI, NSF REU Site Renewal: Cultivating the IoT-Enabled Smart Community”, \$400K, 2020-2023.
- UCI ICS Research Award (Inspiration), “Domain-Expert engagement for Societal IoT Applications”, \$10K, 2020.
- Co-I, CREDENCE: Collaboration Network for Excellent Education and Research in Dependable and Secure Distributed Systems funded by Research Council of Norway (RCN), 5,856,000NOK (Norwegian krone; ~700K USD), 2019-2021.
- PI, NIST MSE Firefighting Grant, “Enabling Infrastructure and Information Resilience for Smart Firefighting – Phase 2”, \$100K, 2018-2019.
- PI, NIST MSE Firefighting Grant, “Enabling Infrastructure and Information Resilience for Smart Firefighting”, \$100K, 2017-2018.
- PI, MINES INRIA Associate Team Grant, Adaptive Communication Middleware for Resilient Sensing & Actuation In Emergency Response Scenarios, \$12K, 2018-2021.
- PI, NSF REU Site: Cultivating the IoT-enabled Smart Community (IoT-SITY), \$280K, 2017 – 2020.
- Co-PI, Toshiba - “Benchmarking IoT Data Management Systems”, \$ 150K, 2017-2019.
- PI, DEBS 2016 Student Travel Grant Award, \$15K, 2016.
- Co-PI, DARPA Brandeis Program award, “A Privacy Cognizant IoT Environment”, \$4.9 M, 2015-2020.
- PI, SRDS 2015 Student Travel Grant Award, \$15K, 2015.
- PI, EAGER: “Global SmartCities Program, Project AquaSCALE: Exploring Resilience in SmartCity Water Infrastructures”, \$250K, 2015-2017.
- Co-PI, NASA DIRECT STEM Project with CalStateLA - \$1.25M, 2015-2020.

- Co-PI, NSF “BigData Program, Making Big Active Data: From PetaBytes to MegaFolks in Milliseconds” \$784,380, 2014-2019.
- PI, EAGER: SCALE 2 (Safe Community Awareness and Alerting) - Extending a SmartAmerica Challenge Project, \$300,000, 2014-2018.
- PI, NSF PC3 supplement to “Collaborative Research: Pervasive Computing for Disaster Response”, \$25K, 2013-2014.
- PI, NSF PC3, “Collaborative Research: Pervasive Computing for Disaster Response”, \$300K, 2011-2013.
- Co-PI, DHS “Social Media Alert and Response to Threats to Citizens (SMART-C)”, \$600K, 2012-2014.
- Co-PI, NSF, “II-EN: UCI Irvine Sensorium”, \$373K, 2011-2015.
- PI, NSF, “CCGrid 2011: The 11<sup>th</sup> Int’l Symposium on Cluster, Cloud and Grid Computing”, \$20K, 2011-2012.
- PI, NSF CPS, “CPS: Medium: Collaborative Research: Dependability Techniques for Instrumented CyberPhysical Spaces”. Co-PI: Sharad Mehrotra, Nikil Dutt; Collaborators: SRI International, \$700K, 2010-2014.
- PI, NSF Nets, “Nets: EAGER: GeoSocial Alerting: An Exploratory Case Study in SocioTechnical Alerting”, \$205K, 2010-2012.
- Co-PI, DARPA, “Speech-Based Situational Awareness for Event Response” \$430K, 2010-2013.
- Co-PI, NSF, “Collaborative Research: Dispatcher’s Assistant for Emergency First Response” \$120K, 2008-2010.
- Co-PI, DHS-FEMA Firefighter Safety Grant “SAFIRE: Situational Awareness for Firefighters”, \$1 million, 2008-2010.
- Industry Gift, Nokia Research Labs, \$8K, 2008.
- Industry Gift (joint with Sharad Mehrotra), The School Broadcasting Company Inc., \$50K, 2007.
- Industry Gift, Nokia Research Labs, \$5K, 2007.
- Principal Investigator, “Collaborative Research: CSR-EHS: Modeling and Exploiting Cross-Layer Timing in Distributed Embedded Systems”, NSF, Total award: \$200,000, 2006-2009.
- Co-PI, NSF, “Responsphere: An IT Infrastructure for Responding to the Unexpected”, total award \$1.8 million, 2004-2009.
- Co-PI, NSF, “Disaster Portal”, total award \$102K, 2005-2006.
- Co-PI, NSF Large ITR, “Responding to the Unexpected”, total award \$12.5 million, 2003-2008.
- Co-PI, ONR, “Adaptive Systems Interoperability”, total award \$5 million (\$890,000 – UCI), 2002 – 2007.
- Principal Investigator, “QoS-enabled Customizable Middleware for Global Distributed Computing”, NSF Career Award, total award \$402,656, 1999 – 2003.
- Co-Investigator, UC Mexus Program, “MIRO: Adaptive Middleware for a Mobile Internet Robot Laboratory”, total award \$40,000, 1999 – 2000. With Alfredo Witzenfield (PI).
- Principal Investigator, Hewlett Packard, “Agent Based Middleware for Flexible Global Distributed Computing”, total award \$40,000, 2000 – 2003.
- Co-Investigator, DARPA / AFOSR, “Time Based Coordination of Network Embedded Nodes”, total award \$1,455,560, 2001 – 2005. With Kane Kim (PI).
- Principal Investigator, NSF, “Workshop on Formal Methods for Open Object-Based Distribution Systems (FMOODS2000)”, total award \$10,000, 2000 – 2001.



- Principal Investigator, Novell Inc., total award \$160,000, 1999 – 2001.
- Principal Investigator, Hewlett Packard, “E-speak Pilot”, total award \$12,000, 2000.
- Equipment Awards for the Responsphere Infrastructure (approx \$250K value) -- Microsoft, IBM, Nokia, Motorola, The School Broadcasting Company, Canon, D-Link, Printronix, CDW-G, Walker Wireless, ViaSat, AMD, 5G Wireless, Ether2, NetPhone, Alliance of Foam Packaging Recyclers.
- Equipment Award, Hewlett Packard Company.
- Equipment Award, Novell Corporation.
- Equipment Award (ixMicro).
- Distance Learning Equipment Award.

### **Student Advising and Advised:**

#### **Postdoctoral Scholars and Research Scientists**

- Dr. Wooyoung Kim, 1998-1999.
- Dr. Kyungbaek Kim, 2008 – 2012 (currently Assoc. Professor. Chonnam National University, Korea)
- Dr. Yusuf Sarwar Uddin. 2015 - 2019 (currently Asst. Professor, University of Missouri, Kansas City)
- Dr. Georgios Bouloukakis (Ph.D. INRIA, Fall 2017 -- 2020) (currently Assoc. Prof. Telecom Sud, Paris).
- Dr. Roberto Yus (Fall 2020 - 2021) (w/ Prof. Sharad Mehrotra, currently Asst. Prof, University of Maryland, Baltimore County)
- Visiting Faculty Hosted: Prof. Chenghsin Hsu, Prof. Kyungbaek Kim, Prof. Roman Vitenberg, Prof. Alfredo Weitzenfeld, Prof. Aiman El Arbad, Prof. Yong-Jin Lee, Prof. Leobino Sampaio

#### **Ph.D. advisees (with first position after graduation, most recent known position)**

- Jared MacShane
- Ryan Hildebrandt
- Rahul Atul Bhope
- Rummana Rahman
- Modeste Kenne
- Tung-Chun Chan
- Andrew Chio
- Guoxi Wang (Ph.D. 2024, expected)
- Fangqi Liu (Ph.D. 2023), Postdoctoral Researcher, Vanderbilt University. “Leveraging Mobility to Enhance IoT Applications”.
- Zhenyu Zhang (co-advised with Prof. Shangping Ren), UCI/SDSU JDP. Computational Sciences (PhD 2022), “A Framework for Discovering Implicit Knowledge from Event Logs”.
- Hang Nguyen (Ph.D. 2022), Microsoft Corp., “Toward Scalable, Reliable and Efficient Big Data Publish Subscribe Systems”.
- Praveen Venkateswaran (Ph.D. 2021), Research Scientist, IBM T.J. Watson Research Center, “[Leveraging Community Structure and Behavior for Smart Infrastructure](#)”.
- Nailah Alhassoun (Ph.D. 2021), Assistant Professor, King Saud University, “[Context-aware energy optimization for perpetual IoT-based safe communities](#)”.

- Qing Han (Ph.D. 2019) - Research Engineer, Facebook, “[Enabling Resilience in Cyber-Physical-Human Water Infrastructures.](#)”
- Qiuxi Zhu (Ph.D. 2019) - Research Scientist, VMWare, “[Exploiting Mobile Plus In-Situ Deployments in Community IoT Systems.](#)”
- Kyle Benson (Ph.D. 2018) – Senior Research Scientist, RTI Inc, “[Resilient Communications Middleware for IoT Data Exchange.](#)”
- Zhijing Qin (Ph.D. 2015) – Senior Software Engineer, Pinterest Inc., currently Google Inc, “[MINA: A Multinetwork INformation Architecture in Cyber-Physical Systems/Internet of Things Environments.](#)”
- Do Minh Ngoc (Ph.D. 2014) – Senior Staff Member, Arista Networks Inc, “[Content Delivery using Hybrid Infrastructure and Ad Hoc Networks.](#)”
- Reza Rahimi (Ph.D. 2014) – Research Staff Member, Samsung Research Labs, “[Qos-aware middleware for optimal service allocation in mobile cloud computing.](#)”
- Ye Zhao (Ph.D. 2014) – Research Staff Member, Google Inc, “[Middleware Approaches to Societal Scale Information Sharing.](#)”
- Leila Jalali (Ph.D. 2012) – Research Staff Member, IBM Research Labs., currently Google Inc, “[Middleware solutions for integrated simulation environments.](#)”
- Jehan Wickramasuriya (Ph.D. candidate) – Principal Research Engineer, Motorola Research Labs.
- Bo Xing (Ph.D., Fall 2009) – Research Staff Member, Ericsson Research, (currently LinkedIn), “[A middleware approach to information dissemination in heterogeneous wireless networks.](#)”
- Daniel Massaguer (M.S. 2005, Ph.D. Fall 2009) – Amazon Web Services, “[A semantic approach for building sentient spaces.](#)”
- Minyoung Kim (co-advised with Nikil Dutt, Ph.D. 2008) – Senior Research Scientist, SRI International, “[XTune: a formal methodology for cross-layer tuning of mobile real-time embedded systems .](#)”
- Kyoungwoo Lee (co-advised with Nikil Dutt, Ph.D 2008) – Assistant Professor, Yonsei University, Korea (currently Full Professor), “[Cooperative cross-layer protection for resource constrained mobile multimedia systems.](#)”
- Vidhya Balasubramanian (Ph.D. Fall 2008) – Assistant Professor, Amrita University, India (currently Full Professor), “[Supporting scalable activity modeling in simulators.](#)”
- Yun Huang (Ph.D. , Summer 2008) – Assistant Professor, Syracuse University, currently Associate Professor, Univ. of Illinois, Urbana-Champaign), “[MAPGrid : context aware grid middleware for mobile applications.](#)”
- Mayur Deshpande (Ph.D. Spring 2007) – Google Inc, “[Peer-to-peer flash dissemination.](#)”
- Sebastian Gutierrez-Nolasco, (Ph.D. Summer 2007) – Senior Scientist, NASA Ames Research Center, “[A semantic-driven communication framework for safe adaptability.](#)”
- Qi Han (Ph.D., Summer 2005) – Assistant Professor, Colorado School of Mines. (currently Full Professor), “[Quality-aware context information collection.](#)”
- Shivajit Mohapatra (Ph.D., Summer 2005) – Principal Research Scientist, Motorola Research Labs. “[DYNAMO : Power aware middleware for distributed mobile computing.](#)”

#### Selected M.S. advisees

- Yuqiao Li (MS, 2023)
- Rahima Jahan Mitu (MS 2023)
- Elahe Khatibi (MS, 2022)

- Mowhebat Bazarghani (MS, 2022)
- Shweta Iyer (MS, 2020)
- Hemant Malla (MECPS, 2019)
- Purvi Kaul (M.S. 2017)
- Syed Shahbaaz Safir (M.S 2017)
- Guoxi Wang (M.S. 2016)
- Balaji Venkatesh (M.S. 2016)
- Phu Nguyen (M.S. 2015)
- Jikai Cin (M.S. 2015)
- Ranga Raj (M.S. 2014)
- Mahnaz Roshanei (M.S. 2012)
- Xiujuan Yi (M.S. 2012)
- Yunho Huh (M.S. 2012)
- Myung-Guk Lee (M.S. 2012)
- Caitlin Lustig (M.S. 2011)
- Jinsu Wang (M.S. 2007)
- Jonathan Cristoforetti (M.S. 2007) – Google Inc.
- Suraj Nagasrinivasa (M.S. 2005)
- Humeyra Altintas (M.S. 2005)
- Xing Zheng (M.S. 2004)
- Mark Panahi (M.S. 2004)
- Henry Yan, (M.S. 2003)
- Bhaskar Chatterjee (M.S. 2002)
- Zhenghua Fu (M.S. 2001)
- Xiaoping Wei (M.S. 2001)

#### **International Exchange Research Students (M.S./Ph.D. thesis)**

- Luca Clementi, Marco Domenichini, Jonathan Cristoforetti, Alessandro Ghighi, Alessio Della Motta, Luca Iannario, Luca Scalzotto.
- Shu-Ting Wang, Meng-Wei, Laura Hwang, Sungmin Hwang.
- Adriana Ribeiro

#### **Selected Undergraduate Researchers**

- Ishan Varshney, Kushal Kuchibotla, Lily McBeath, Andrew Chio, Taylor Caulfield (UCI Honors thesis), Kelly Pham, Andrew Yang (UCI Honors thesis), Amit Abhishek(UCI Honors thesis), Alfred Anguiano, Samuel Mandell, Christopher Bell, Jason Collins, Sadullah Nader, Michael Philpott, Preethi Srinagesh
- Sanket More (UCSB), Varun Raj (UC Berkeley), Moyosore Akinranmede (UT San Antonio), Sharika Hegde (CMU), Jaelin Jordan (Hampton University), Emiliia Dyrenkova (Mira Costa College), Evanjelin Mahmoodi (UC Santa Cruz), Modeste Kenne (Iowa State), Katelyn Itano (Vanderbilt U.), Christina Youn (Notre Dame Univ.), Caleb Johnson (San Diego State Univ.), Samir Jain (UC San Diego), Erin Boomershine (Ball State University), Celeste Penney (UCLA), Ilana Nguyen (Brown Univ.), Anton Dimitriev (WashU, St. Louis)

#### **High School Research Scholars**

- Chloe Lim, Sarika Rau, Samuel Martinez, Lance Lew, Kushagra Pandey, Ashwin Tripathi, Divya Kameti

## Publications

### Book Chapters

- BC-12 Gaurav Jain, Sarath Babu, Kyle Benson, B. S. Manoj, Yusuf Sarwar and Nalini Venkatasubramanian. "On the characterization of routing protocols for sensed data transfer in disconnected sensor networks" In The Philosophy of Mission-Oriented Wireless Sensor Networks, Springer, to appear, (Invited chapter).
- BC-11 Cheng-Hsin Hsu, Hua-Jun Hong, Tarek Elgamal, Klara Nahrstedt, Nalini Venkatasubramanian. "Multimedia Fog Computing: Minions in the Cloud and Crowd", in Frontiers of Multimedia Research, 255-286, 2017.
- BC-10 Zhijing Qin, Qi Han, Sharad Mehrotra, Nalini Venkatasubramanian. *Quality Aware Sensor Data Management*, The Art of Wireless Sensor Networks, Ed. Habib M. Ammari, Springer Verlag, pages 429-464. 2014.
- BC-9 Nga Dang, Eli Bozorgzadeh, Nalini Venkatasubramanian. *Energy Harvesting for Sustainable Smart Spaces*, Advances in Computers, Vol. 87, Elsevier Press. Ed. Ali Hurson, pages 203-251, 2012.
- BC-8 Shivajit Mohapatra, Reza Rahimi, Nalini Venkatasubramanian. *Power-Aware Middleware for Mobile Applications*, Handbook of Energy-Aware and Green Computing, eds. Sanjay Ranka and Ishfaq Ahmed, Chapman and Hall/CRC Press, pages 193-224, 2011.
- BC-7 Sharad Mehrotra, Nalini Venkatasubramanian, Mark-Oliver Stehr, Carolyn Talcott. *Pervasive Sensing, Event Detection and Situational Awareness*, Securing Cyber-Physical Infrastructures: Foundations and Challenges, Eds. Sajal Das, Krishna Kant, Nan Zhang, pages 505-535, 2011.
- BC-6 Daniel Massaguer, Sharad Mehrotra, Ronen Vaisenberg and Nalini Venkatasubramanian. *SATWARE: A Semantic Approach for Building Sentient Spaces*, Distributed Video Sensor Networks, Springer, Eds. Bir Bhanu, China Ravishankar, Amit Roy Chowdhury, Demetri Terzopoulos, and Hamid Aghajan, 2010.
- BC-5 Jehan Wickramasuriya, Sharad Mehrotra and Nalini Venkatasubramanian. *RFID-Enabled Privacy-Preserving Video Surveillance: A Case Study*, RFID Handbook: Applications, Technology, Security and Privacy, CRC Press, Chapter 25, pages 456-466, Ed. Syed A. Ahson, Mohammad Ilyas, 2008.
- BC-4 B. Hore, H. Jafarpour, R. Jain, S. Ji, D. Massaguer, S. Mehrotra, N. Venkatasubramanian and U. Westermann. *SATware: Middleware for Sentient Spaces*, Multimodal Surveillance: Sensors, Algorithms and Systems, Ed. Zhigang Zhu and Thomas S. Huang, 2007.
- BC-3 Naveen Ashish, Rajesh Hegde, Charles Huyck, Dmitri Kalashnikov, Sharad Mehrotra, Padhraic Smyth and Nalini Venkatasubramanian. *Situational Awareness Technologies for Disaster Response*. Terrorism Informatics: Knowledge Management and Data Mining for Homeland Security (Chen et al Eds), Springer, September 2007.
- BC-2 Yun Huang, Shivajit Mohapatra, Qi Han and Nalini Venkatasubramanian. *QoS Aware Resource Discovery in Mobile Environments*, Chapter VI, The Handbook of Mobile Middleware (ISBN: 0849338336), Eds. A. Corradi and P. Bellavista, Chapman and Hall/CRC Press, September 2006.
- BC-1 S. Mohapatra, C. Periera, N. Dutt, R. Gupta and N. Venkatasubramanian. *Energy-Aware Adaptation for End-to-end Video Streaming to Mobile Handheld Devices*. Ultra-Low Power Electronics and Design. Chapter 14. Kluwer Academic Publishers, 2004.

## Edited Volumes

- E-8 Vana Kalogeraki and Nalini Venkatasubramanian, Proceedings of the ACM International Conference on Distributed Event Based Systems (DEBS 2016). June 2016, ACM Press.
- E-7 Pascal Felber and Nalini Venkatasubramanian. Proceedings of the 34th IEEE International Symposium on Reliable Distributed Systems, Sept 28th - Oct 1st, 2015, Montreal, Quebec, Canada, IEEE Computer Society 2015.
- E-6 [Karl Aberer](#), [Anupam Joshi](#), [Sougata Mukherjea](#), [Dipanjan Chakraborty](#), [Hua Lu](#), Nalini Venkatasubramanian, [Salil Kanhere](#) (Eds.), 13th IEEE International Conference on Mobile Data Management, MDM 2012, Bengaluru, India, July 23-26, 2012. [IEEE Computer Society 2012](#), ISBN 978-1-4673-1796-2
- E-5 Jun Shen, Soo Dong Kim, Nalini Venkatasubramanian. Special issue: Service Oriented Computing and Applications. Comput. Syst. Sci. Eng. 27(2) (2012). Also Guest editorial notes for selected papers from SOCA 2010. Service Oriented Computing and Applications 6(2): 81-82 (2012)
- E-4 Special Issue of IEEE Communications Magazine on “Communications Middleware for Mobile Devices and Applications”, September 2011, Vol. 49, No. 9. (co-editors: Guru Banavar, Paolo Bellavista, Ravi Kothari)
- E-3 Nalini Venkatasubramanian, Vladimir Getov, Stephan Steglich (Eds.): Mobile Wireless Middleware, Operating Systems, and Applications - 4th International ICST Conference, Mobilware 2011, London, UK, June 22-24, 2011, Revised Selected Papers. Lecture Notes of the Institute for Computer Sciences, Social Informatics & Telecommunications Engineering 93, Springer 2012, ISBN 978-3-642-30606-8
- E-2 Giuseppe Anastasi, Nalini Venkatasubramanian . Proceedings of IEEE World of Wireless and Mobile Multimedia, June 2008, ISBN 978-1-4244-2100-8, Message from the technical program chairs Proceedings of WoWMoM 2008; Also Pervasive and Mobile Computing, Special Section of Selected Papers from IEEE WoWMoM 2008, Vol. 5, N. 5, October 2009.
- E-1 Surendar Chandra, Nalini Venkatasubramanian: Editor's Note. Multimedia Syst. 11(6): 495-496 (2006)

## Federal Strategic Reports

- FR-1 Nabil R. Adam, Larry Collins, Ronald T. Eguchi, Ramesh Kolluru, Paul Matheis, Shawn Matz, Sharad Mehrotra, Basit Shafiq, Shashi Shekhar, Max Shen, Lawrence E. Skelly II, Julie Swann, Ronald W. Tarr, Nalini Venkatasubramanian (Report's Core Writing Team). *Workshop on Emergency Management: Incident, Resource, and Supply Chain Management*. U.S. Dept. of Homeland Security. Eds. Nabil Adam, Chris Doyle and Lawrence Skelly.
- FR-2 Paul Siebert and Nalini Venkatasubramanian. *Use of Data During and Emergency Event, Chapter 10, NIST Special Publication 1191 Research Roadmap for Smart Fire Fighting Summary Report*, Edited by Casey Grant Fire Protection Research Foundation Anthony Hamins Nelson Bryner Albert Jones Galen Koepke National Institute of Standards and Technology, <http://dx.doi.org/10.6028/NIST.SP.1191>, pages 139-160, May 2015.
- FR-3 Frank Lavelle, David Mizzen, Royce Francis, David Mendonca, Nalini Venkatasubramanian. *Systems-Based Modeling of Communities*, Report to the National Institute of Standards, 2015.

- FR-4 Michael Dunaway, Robin Murphy, Nalini Venkatasubramanian, Leysia Palen, Daniel Lopresti. *"Research Agenda in Intelligent Infrastructure to Enhance Disaster Management, Community Resilience and Public Safety"*. Computing Community Consortium (CCC) white paper. <http://cra.org/ccc/resources/ccc-led-whitepapers/> 2017.
- FR-5 Co-author, Workshop Report, National Workshop on Transportation Cyber-Physical Systems, 2014.

## Refereed Journal Articles

- J-58 Andrew Chio, Daokun Jiang, Peeyush Gupta, Georgios Bouloukakis, Roberto Yus, Sharad Mehrotra and Nalini Venkatasubramanian. *"SmartSPEC: A Framework to Generate Customizable, Semantics-based Smart Space Datasets"*, Elsevier Pervasive and Mobile Computing, 2023, 101809.
- J-57 Allred, Aaron L., Erin M. Boomershine, Christopher B. Davison, Jayci L. Wimmer, Celeste Penney, Julie Rousseau, and Nalini Venkatasubramanian. *"Analyzing Student Experiences and Career Pathways for Healthcare Student Volunteers Participating in a Disaster Response Drill: A Mixed-Methods Study."* CTE Journal 11, no. 2 (2023).
- J-56 Shantanu Sharma, Nisha Panwar, Peeyssh Gupta, Shanshan Han, Guoxi Wang, Sharad Mehrotra, Nalini Venkatasubramanian. *"Quest: Privacy-Preserving Monitoring of Network Data: A System for Organizational Response to Pandemics"*, IEEE Transactions on Services Computing, accepted for publication(2022).
- J-55 Roberto Yus, Georgios Bouloukakis, Sharad Mehrotra, Nalini Venkatasubramanian. *"The Semiotic Ecosystem: A Semantic Bridge between IoT Devices and Smart Spaces."*, ACM Transactions on Internet Technologies, 2022, 22, 3, Article 76 (August 2022), <https://doi.org/10.1145/3527241>
- J-54 Panwar, N., Sharma, S., Wang, G., Mehrotra, S., Venkatasubramanian, N., Diallo, M. and ; Sani, A. *"IoT Notary: Attestable Sensor Data Capture in IoT Environments"*, ACM Transactions on Internet of Things, 3(1), (2021)
- J-53 Min-han Tsai, Nalini Venkatasubramanian, Cheng-Hsin Hsu. *Multi-level Feature Driven Storage Management of Surveillance Videos*, Elsevier Pervasive and Mobile Computing, Vol. 76, 2021.
- J-52 Praveen Venkateswaran, Kyle Edward Benson, Chia-Ying Hsieh, Cheng-Hsin Hsu, Sharad Mehrotra, Nalini Venkatasubramanian, *"REAM: A Framework for Resource Efficient Adaptive Monitoring of Community Spaces"*, Elsevier Pervasive and Mobile Computing, Vol 76, 2021.
- J-51 Nisha Panwar, Shantanu Sharma, Guoxi Wang, Sharad Mehrotra, and Nalini Venkatasubramanian. *"CANOPY: A Verifiable Privacy-Preserving Token Ring based Communication Protocol for Smart Homes"*, ACM Transactions on Cyber-Physical Systems (ACM TCPS), 5(1): 3:1-3:34 (2021).
- J-50 Georgios Bouloukakis, Kyle Benson, Luca Scalzotto, Paolo Bellavista, Casey Grant, Valérie Issarny, Sharad Mehrotra, Ioannis Moscholios, Nalini Venkatasubramanian, *"PrioDeX: a Data Exchange Middleware for Efficient Event Prioritization in SDN-based IoT systems,"*, ACM Transactions on the Internet of Things, 2021. pp 1- 30.
- J-49 Dave Archer, Michael A August, Georgios Bouloukakis, Christopher Davison, Mamadou H Diallo, Dhruvajyoti Ghosh, Christopher T Graves, Michael Hay, Xi He, Peeter Laud, Steve Lu, Ashwin Machanavajjhala, Sharad Mehrotra, Gerome Miklau, Alisa Pankova, Shantanu Sharma, Nalini Venkatasubramanian, Guoxi Wang, Roberto Yus. *"Transitioning from Testbeds to Ships: An Experience Study in Deploying the TIPPERs IoT Platform to the US Navy"*, Journal of Defense Modeling and Simulation, September 2020. doi:[10.1177/1548512920956383](https://doi.org/10.1177/1548512920956383)

- J-48 Yiming Lin, Daokun Jiang, Roberto Yus, Georgios Bouloukakis, Andrew Chio, Sharad Mehrotra, Nalini Venkatasubramanian: *LOCATER: Cleaning WiFi Connectivity Datasets for Semantic Localization*. Proc. VLDB Endow. 14(3): 329-341 (2020)
- J-47 N. Alhassoun, M. Y. S. Uddin, and N. Venkatasubramanian. "Context-Aware Energy Optimization for Perpetual IoT-Based Safe Communities". Elsevier Sustainable Computing: Informatics and Systems, (SUSCOM, 2019).
- J-46 Mahmudur Rahman, Hua-Jun Hong, Amatur Rahman, Cheng-Hsin Hsu, Yusuf Sarwar, Li-Wen Pan, Nalini Venkatasubramanian. "Adaptive Sensemaking for Multi-Sensor IoT Platforms on Budgeted 3G Data Plans". Elsevier Journal of Systems Architecture, 2019.
- J-45 Q. Zhu, M. Y. S. Uddin, Z. Qin, and N. Venkatasubramanian. "Data Collection and Upload under Dynamicity in Smart Community Internet-of-Things Deployments". Pervasive and Mobile Computing (2017), Vol. 42, pp 166-186, <https://doi.org/10.1016/j.pmcj.2017.10.003>.
- J-44 D. Wu, D. I. Arkhipov, M. Kim, C. L. Talcott, A. C. Regan, J. A. McCann, N. Venkatasubramanian. "ADDSEN: Adaptive Data Processing and Dissemination for Drone Swarms in Urban Sensing". in IEEE Transactions on Computers , 66 (2), 183-198, 2017.
- J-43 N. Do, Y. Zhao, C. Hsu; N. Venkatasubramanian. "Crowdsourced Mobile Data Transfer with Delay Bound". ACM Transactions on Internet Technology, Vol 16, No. 4, 2016, 29 pages
- J-42 D. Wu, Q. Liu, Y. Li, J. A. McCann, A. C. Regan and N. Venkatasubramanian, "Adaptive Lookup of Open WiFi Using Crowdsensing," in *IEEE/ACM Transactions on Networking*, vol. 24, no. 6, pp. 3634-3647, December 2016. doi: 10.1109/TNET.2016.2533399
- J-41 M. Reza Rahimi, Nalini Venkatasubramanian, Sharad Mehrotra, and Athanasios V. Vasilakos. *On Optimal and Fair Service Allocation in Mobile Cloud Computing*, IEEE Transactions on Cloud Computing, Vol 6, no. 3, pp. 815-828, 2015.
- J-40 Kyle Benson, Charles Fracchia, Guoxi Wang, Qiuxi Zhu, Serene Almomen, John Cohn, Luke D'Arcy, Daniel Hoffman, Matthew Makai, Julien Stamatakis, and Nalini Venkatasubramanian. *SCALE: Safe Community Awareness and Alerting Leveraging the Internet of Things*. IEEE Communications, pp. 27-34. December 2015.
- J-39 Debahuti Mishra, Magda El Zarki, Aiman Erbad, Chenghsin Hsu, Nalini Venkatasubramanian. *Clouds + Games: A Multifaceted Approach*", IEEE Internet Computing, Special Issue on Internet Games, Vol. 18, Issue 3, Pages 20-27, 2014.
- J-38 Leila Jalali, Sharad Mehrotra, Nalini Venkatasubramanian. *A Reflective Approach to Synchronization for Consistent Multisimulation*, Simulation Modeling: Practice and Theory, November 2014, vol. 90, no. 11, pp 1268-1289.
- J-37 Kyungbaek Kim, Sharad Mehrotra, Nalini Venkatasubramanian. *Efficient and Reliable Application Layer Multicast for Flash Dissemination*, IEEE Transactions on Parallel and Distributed Systems (TPDS), vol. 25, No. 10, pp. 2571-2582, 2014.
- J-36 Ngoc Do, Ye Zhao, Cheng-Hsin Hsu and Nalini Venkatasubramanian. *A Marketplace for Mobile Applications Supporting Rich Multimedia Feeds*, IEEE Communication Society (COMSOC) Multimedia Communications Technical Committee (MMTC). 2013.
- J-35 Sebastian Gutierrez-Nolasco, Mark-Oliver Stehr, Carolyn Talcott and Nalini Venkatasubramanian. *Tailoring Consistency in Group Membership for Mobile Networks*, Journal of Future Generation Computing Systems, Volume 31, Pages 134-146, 2014.

- J-34 Reza Rahimi, Jian Ren, Harold Liu, Athanasios Vasilakos and Nalini Venkatasubramanian. *Mobile Cloud Computing: A Survey, State of the Art and Future Directions*, ACM/Springer Mobile Application and Networks (MONET) Journal, Special Issue on Mobile Cloud Computing. Mobile Networks and Applications, April 2014, Volume 19, Issue 2, pp 133-143, 2014.
- J-33 Ngoc Do Minh, Cheng-hsin Hsu, Nalini Venkatasubramanian. *Video Dissemination over Hybrid Cellular and Ad Hoc Networks*, IEEE Transactions on Mobile Computing, Vol 13, No.2, 2014 E-published online November 2012 ahead of print publication.
- J-32 Nga Dang, Elaheh Bozorgzadeh, Nalini Venkatasubramanian. *QuARES: A Quality-Aware Renewable Energy-driven Sensing Framework*, Sustainable Computing: Informatics and Systems, Volume 2, Issue 4, pp. 171-183, December 2012.
- J-31 Ravi Chandra Jammalamadaka, Roberto Gamboni, Sharad Mehrotra, Kent Seamons, Nalini Venkatasubramanian. *A Middleware Approach for Outsourcing Data Securely*, In Elsevier Computers and Security, pp. 252-266, July 2012.
- J-30 Mayur Deshpande, Kyungbaek Kim, Bijit Hore, Sharad Mehrotra, Nalini Venkatasubramanian. *ReCREW: A Reliable Flash Dissemination System*, IEEE Transactions on Computers, 62(7): 1432:1446, 2013.
- J-29 Kyoungwoo Lee, Nikil Dutt and Nalini Venkatasubramanian. *EAVE: Error Aware Video Encoding for Supporting Extended Energy/QoS Tradeoffs for Mobile Embedded Systems*, ACM Transactions on Embedded Computing Systems, 11(2):37 (2012).
- J-28 Minyoung Kim, Mark-Oliver Stehr, Carolyn Talcott, Nikil Dutt, Nalini Venkatasubramanian. *xTune: A Formal Methodology for Cross-layer Tuning of Mobile Embedded Systems*, ACM Transactions on Embedded Computing Systems (TECS), Vol. 11, No. 4, (73), 2012.
- J-27 Hojjat Jafarpour, Bijit Hore, Sharad Mehrotra, Nalini Venkatasubramanian. *CCD: A Distributed Publish/Subscribe Framework for Rich Content Formats*, IEEE Transactions on Parallel and Distributed Systems, 23(5): 844-852, 2012.
- J-26 Grit Denker, Nikil Dutt, Sharad Mehrotra, Mark-Oliver Stehr, Carolyn Talcott, Nalini Venkatasubramanian. *Resilient, Dependable CyberPhysical Systems: A Middleware Perspective*. Journal of Internet Systems and Applications, Volume 3, No.1, pages 41-49, 2012; invited papers from the Future of Middleware Event (FOME 2011) held in conjunction with ACM/IFIP/USENIX Middleware 2011.
- J-25 Ravi Chandra Jammalamadaka, Sharad Mehrotra, Nalini Venkatasubramanian, *Protecting personal data from untrusted web-based data services*, Elsevier Network Security , Vol. 2011, No. 9, pp. 11-16, 2011.
- J-24 Ravi Chandra Jammalamadaka, Sharad Mehrotra, Nalini Venkatasubramanian, Kent Seamons *DataVault: secure mobile access and data sharing*, Elsevier Network Security, Vol. 2011, No. 5, pp. 16-19, 2011 DOI: 10.1016/S1353-4858(11)70052-6.
- J-23 D. Kalashnikov, S. Mehrotra, J. Xu, N. Venkatasubramanian. *A Semantics-Based Approach for Speech Annotation of Images*, IEEE Transactions on Knowledge and Data Engineering (TKDE), 23(9), September 2011.
- J-22 Kyoungwoo Lee, Aviral Srivastava, Nikil Dutt and Nalini Venkatasubramanian. *Partitioning Techniques for Partially Protected Caches in Resource-Constrained Embedded Systems*, ACM Transactions on Design Automation and Embedded Systems, Volume 15, No. 4, 2010.



- J-21 Kyoungwoo Lee, Aviral Shrivastava, Ilya Issenin, Nikil Dutt, and Nalini Venkatasubramanian. *Partially Protected Caches to Reduce Failures due to Soft Errors in Multimedia Applications*, IEEE Transactions on Very Large Scale Integration (TVLSI) Systems, Vol. 17, No. 9, September 2009,
- J-20 Minyoung Kim, Sudarshan Banerjee, Nikil Dutt, Nalini Venkatasubramanian. *Energy-aware Co-synthesis of Real Time Multimedia Applications on MPSoCs Using Heterogeneous Scheduling Policies*, ACM Transactions on Embedded Computing Systems (TECS), Vol 7, No. 2, Article 9, February 2008
- J-19 Qi Han, Nalini Venkatasubramanian, Sharad Mehrotra. *Application-aware Integration of Data Collection and Power Management in Wireless Sensor Networks*, Journal of Parallel and Distributed Computing (JPDC), Vol.67, Issue 9, September 2007.
- J-18 Iosif Lazaridis, Qi Han, Sharad Mehrotra and Nalini Venkatasubramanian. *Fault-Tolerant Evaluation of Continuous Queries over Sensor Data*, International Journal on Distributed Sensor Networks (IJDSN), Vol. 5, No.4. 2009.
- J-17 Liang Cheng, Shivajit Mohapatra, Magda El Zarki, Nikil Dutt and Nalini Venkatasubramanian. *Quality-Based Backlight Optimization for Video Playback on Handheld Devices*, Journal on Advances in Multimedia, vol. 2007, Article ID 83715, July 2007.
- J-16 Shivajit Mohapatra, Nikil Dutt, Alex Nicolau, Nalini Venkatasubramanian. *DYNAMO: A Cross-Layer Framework for End-to-End QoS and Energy Optimization in Mobile Handheld Devices*, IEEE Journal on Selected Areas in Communication (JSAC), Special Issue on Cross-Layer Optimized Wireless Multimedia, May 2007.
- J-15 Qi Han and Nalini Venkatasubramanian. *Timeliness-Accuracy Balanced Collection of Dynamic Data*, IEEE Transactions on Parallel and Distributed Systems (TPDS), Vol. 18, No.2, February 2007
- J-14 Minyoung Kim, Hyunok Oh, Nikil Dutt, Alex Nicolau, Nalini Venkatasubramanian. *PBPAIR: An Energy-efficient Error-resilient Encoding Using Probability Based Power Aware Intra Refresh*, ACM SIGMOBILE Mob. Comput. Commun. Rev. 10(3): 58-69, 2006.
- J-13 Q. Han and N. Venkatasubramanian. *Information Collection Services for QoS-aware Mobile Applications*. IEEE Transactions on Mobile Computing (TMC), Vol.5, No.5, May 2006.
- J-12 S. Pasricha, M. Luthra. S. Mohapatra, N. Dutt and N. Venkatasubramanian. *Dynamic Backlight Adaptation for Low-Power Handheld Devices*. IEEE Design and Test of Computers, Special Issue on Embedded Systems for Real Time Embedded Systems. 2004.
- J-11 Nalini Venkatasubramanian, Carolyn Talcott, Gul Agha. *A Formal Model for Reasoning about Adaptive QoS-Enabled Middleware*, ACM Transactions on Software Engineering and Methodology, Vol. 13, No.1, pages 86-147, 2004.
- J-10 Zhenghua Fu and Nalini Venkatasubramanian. *Directory-Based Composite Routing and Scheduling Policies for Dynamic Multimedia Environments*, ACM Multimedia Systems Journal, Vol. 9, No. 5: 398-410, 2004.
- J-9 Iosif Lazaridis, Qi Han, Xingbo Yu, Sharad Mehrotra, Nalini Venkatasubramanian, and Dmitri Kalashnikov, *QUASAR: Quality Aware Sensing Architecture*, ACM SIGMOD Record, Vol 33, No.1, March 2004.
- J-8 Qi Han, Sebastian Gutierrez-Nolasco, and Nalini Venkatasubramanian. *Reflective Middleware for Integrating Network Monitoring with Adaptive Object Messaging*, IEEE Networks (Special Issue on Middleware), Vol. 18, No.1: 56-65, 2004.

- J-7 Sudeep Pasricha, Shivajit Mohapatra, Manev Luthra, Nikil Dutt and Nalini Venkatasubramanian. *Reducing Backlight Power Consumption for Streaming Video Applications on Mobile Handheld Devices*. Special Issue Journal of Korean Multimedia Society (KSSM), December 2003.
- J-6 Xingbo Yu, Koushik Niyogi, Sharad Mehrotra and Nalini Venkatasubramanian. *Adaptive Middleware for Distributed Sensor Environments*, IEEE Distributed Systems Online, May 2003.
- J-5 Nalini Venkatasubramanian. *Safe Composability of Middleware Services*, Communications of the ACM. June 2002.
- J-4 Qi Han and Nalini Venkatasubramanian. *Aggregation Based Information Collection for Mobile Environments*, Journal of High Speed Networking, Vol. 11, No. 3-4, 2002.
- J-3 Qi Han and Nalini Venkatasubramanian. *AutoSeC: An integrated Middleware Framework for Dynamic Service Brokering*, IEEE Distributed Systems Online 2001, Vol. 2, No. 7, 2001.
- J-2 Nalini Venkatasubramanian, Carolyn Talcott. *A Semantic Framework for Modeling and Reasoning about Reflective Middleware*, IEEE Distributed Systems Online, Vol. 2, No. 6, October 2001.
- J-1 Nalini Venkatasubramanian, Gul Agha and S. Miriyala, *Scalable Concurrent Computing*, Journal of The Indian Academy of Sciences, March 1992.

#### **Refereed Conference Papers:**

- C-269 Guoxi Wang, Ryan Hildebrandt, Andrew Chio, Sharad Mehrotra, Nalini Venkatasubramanian. *“BatchIT: Intelligent and Efficient Batching For IoT Workloads at the Edge”*, IEEE/IFIP Network Operations and Management Symposium 2024, Accepted for publication.
- C-268 Andrew Chio, Jian Peng, and Nalini Venkatasubramanian. 2023. *STEP: Semantics-Aware Sensor Placement for Monitoring Community-Scale Infrastructure*. In Proceedings of the 10th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys '23). Association for Computing Machinery, New York, NY, USA, 189–197. <https://doi.org/10.1145/3600100.3623752>
- C-267 Rahul Atul Bhope, K. R. Jayaram, Nalini Venkatasubramanian, Ashish Verma, and Gegi Thomas. 2023. *“FLIPS: Federated Learning using Intelligent Participant Selection”*. In Proceedings of the 24th International Middleware Conference (Middleware '23). Association for Computing Machinery, New York, NY, USA, 301–315. <https://doi.org/10.1145/3590140.3629123>
- C-266 Vishal Chakraborty, Stacy Ann-Elvy, Sharad Mehrotra, Faisal Nawab, Mohammed Sadoghi, Shantanu Sharma, Nalini Venkatasubramanian and Farhaan Saeed. *“Data-CASE: Grounding Data Regulations for Compliant Data Processing Systems”*, Vision Paper, EDBT 2023.
- C-265 Chih-Chun Wu, Rummana Rahman, Charlie Hsu, Cheng-Chia Lai, Nalini Venkatasubramanian, Cheng-Hsin Hsu, ["Evaluating Subsurface Single-Hop WiFi and LoRa Networks for Internet of Underground Things"](#), 2023 IEEE Globecom Workshops: 1st International Workshop on Unconventional IoT Applications (Un-IoT 2023).
- C-264 Praveen Venkateswaran, Vatche Isahagian, Vinod Muthusamy and Nalini Venkatasubramanian.

- “FedGen: Generalizable Federated Learning for Sequential Data”, 2023 IEEE 16th International Conference on Cloud Computing (IEEE CLOUD), Chicago, IL, USA, 2023, pp. 308-318, doi: 10.1109/CLOUD60044.2023.00044.
- C-263 Indrajit Ray, Bhavani Thuraisingham, Jaideep Vaidya, Sharad Mehrotra, Vijayalakshmi Atluri, Indrakshi Ray, Murat Kantarcioglu, Ramesh Raskar, Babak Salimi, Steve Simske, Nalini Venkatasubramanian, and Vivek Singh. *SAFE-PASS: Stewardship, Advocacy, Fairness and Empowerment in Privacy, Accountability, Security, and Safety for Vulnerable Groups*. In Proceedings of the 28th ACM Symposium on Access Control Models and Technologies (SACMAT '23). Association for Computing Machinery, New York, NY, USA, 145–155.
- C-262 Fangqi Liu, Janine Ann Baijnath-Rodino, Tung-Chun Chang, Tirtha Banerjee, Nalini Venkatasubramanian, "*DOME: Drone-assisted Monitoring of Emergent Events For Wildland Fire Resilience*", in Proceedings of the 14th ACM/IEEE International Conference on Cyber-Physical Systems (ICCPs), 2023
- C-261 Tung-Chun Chang, Tirtha Banerjee, Nalini Venkatasubramanian, Rob York, "*QuIC-IoT: Model-Driven Short-Term IoT Deployment for Monitoring Physical Phenomena*", in Proceedings of the 8th ACM/IEEE Conference on Internet of Things Design and Implementation (IoTDI), 2023.
- C-260 Fangqi Liu, Tung-Chun Chang, Kevin Liu, Cyrus Li, Sachin Krishan Thyaharajan, Sideshwar Jappeswaran Balasubramanian, Nalini Venkatasubramanian, "*Demo Abstract: DOME – IoT-Based Monitoring Emergent Events for Wildland Fire Resilience*", in Proceedings of the 8th ACM/IEEE Conference on Internet of Things Design and Implementation (IoTDI), 2023.
- C-259 Allred, Aaron, Alfonso Arauz, Mowhebat Bazargani, Rahul Bhope, Erin Boomershine, Nnenia Campbell, Christopher B. Davison et al. "*Testing CareDEX: SAGAT methodology deployed for a disaster drill at a senior living community.*" Issues in Information Systems 24, no. 1 (2023).
- C-258 C. -Y. Hsieh, P. Venkateswaran, N. Venkatasubramanian and C. -H. Hsu, "*T2C: A Multi-User System for Deploying DNNs in a Thing-to-Cloud Continuum*," 2022 18th International Conference on Mobility, Sensing and Networking (MSN), Guangzhou, China, 2022, pp. 255-262.
- C-257 Biswadip Maity, Bryan Donyanavard, Nalini Venkatasubramanian, Nikil Dutt. "*Workload Characterization for Memory Management in Emerging Embedded Platforms*", In Springer Book Analysis, Estimations, and Applications of Embedded Systems, 2023. 6th IFIP TC 10 International Embedded Systems Symposium, Revised Selected Papers.
- C-256 Shantanu Sharma, Sharad Mehrotra, Nisha Panwar, Nalini Venkatasubramanian, Peeyush Gupta, Shanshan Han, Guoxi Wang, "*QUEST: Privacy-Preserving Monitoring of Network Data*", IEEE World Congress on Services (SERVICES), 2022.
- C-255 Peeyush Gupta, Sharad Mehrotra, Shantanu Sharma, Roberto Yus, Nalini Venkatasubramanian, "*Sentaur: Sensor Observable Data Model for Smart Spaces*", Proceedings of the 31st ACM International Conference on Information & Knowledge Management, 2022.
- C-254 Tzu-Yi Fan, Fangqi Liu, Jia-Wei Fang, Nalini Venkatasubramanian and Cheng-Hsin Hsu, "*Enhancing Situational Awareness with Adaptive Firefighting Drones: Leveraging Di-verse Media Types and Classifiers*", ACM MMSys, 2022.
- C-253 Zhenyu Zhang, Ryan Hildebrandt, Shangping Ren, Nalini Venkatasubramanian. "*Using Domain Knowledge to Assist Process Scenario Discoveries*", IEEE COMPSAC 2022, accepted for publication.

- C-252 Andrew Chio, Daokun Jiang, Peeyush Gupta , Georgios Bouloukakis , Roberto Yus, Sharad Mehrotra, Nalini Venkatasubramanian. “*SmartSPEC: Customizable Smart Space Datasets via Event-Driven Simulations*”, IEEE PERCOM 2022,. (**Mark Weiser Best Paper Award**).
- C-251 Andrew Chio, Daokun Jiang, Peeyush Gupta , Georgios Bouloukakis , Roberto Yus, Sharad Mehrotra, Nalini Venkatasubramanian. “*Artifact: SmartSPEC: Customizable Smart Space Datasets via Event-Driven Simulations*”, Artifact paper, IEEE PERCOM 2022, accepted for publication.
- C-250 H. Nguyen, M. Uddin, N. Venkatasubramanian, "REAPS: Quasi-active Fault Tolerance for Big Data Publish-Subscribe Systems," *2021 IEEE International Conference on Big Data (Big Data)*, 2021, pp. 368-375, doi: 10.1109/BigData52589.2021.9671450.
- C-249 Tzu-Yi Fan, Tun-Chi Tsai, Cheng-Hsin Hsu, Fangqi Liu, and Nalini Venkatasubramanian. *WinSet: the first multi-modal window dataset for heterogeneous window states*. In Proceedings of the 8th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (ACM BuildSys '21).
- C-248 Fangqi Liu, Tzu-Yi Fan, Casey Grant, Cheng-Hsin Hsu, Nalini Venkatasubramanian. *DragonFly: Drone-Assisted High-Rise Monitoring for Fire Safety*, 40TH IEEE International Symposium on Reliable Distributed Systems (SRDS 2021).
- C-247 Z. Zhang, R. Hildebrant, F. Asgarinejad, N. Venkatasubramanian and S. Ren, "Improving Process Discovery Results by Filtering Out Outliers from Event Logs with Hidden Markov Models," *2021 IEEE 23rd Conference on Business Informatics (CBI)*, 2021, pp. 171-180, doi: 10.1109/CBI52690.2021.00028.
- C-246 Praveen Venkateswaran, Vinod Muthusamy, Vatche Isahagian, Nalini Venkatasubramanian, “*Environment Agnostic Invariant Risk Minimization for Classification of Sequential Datasets*”, ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD 2021).
- C-245 Praveen Venkateswaran, Vinod Muthusamy, Vatche Isahagian, Nalini Venkatasubramanian, “*Robust and Generalizable Predictive Models for Business Processes*”, International Conference on Business Process Management (BPM 2021).
- C-244 Yiming Lin, Pramod Khargonekar, Sharad Mehrotra, Nalini Venkatasubramanian. “*T-COVE: An exposure tracing System based on Cleaning Wi-Fi Events on Organizational Premises*”, Demo Paper, Very Large Databases (VLDB) 2021.
- C-243 Peeyush Gupta, Sharad Mehrotra, Shantanu Sharma, Nalini Venkatasubramanian, Guoxi Wang “*Concealer: SGX-based Secure, Volume Hiding, and Verifiable Processing of Spatial Time-Series Datasets*”, EDBT 2021: 277-288.
- C-242 Tung-Chun Chang, Georgios Bouloukakis, Chia-Ying Hsieh, Cheng-Hsin Hsu, Nalini Venkatasubramanian. “*SmartParcels - A What-If Analysis and Planning Tool for IoT-Enabled Smart Communities*”, IEEE/ACM IoT Design and Implementation (IoTDI 2021), Demo Paper.
- C-241 Tung-Chun Chang, Georgios Bouloukakis, Chia-Ying Hsieh, Cheng-Hsin Hsu, Nalini Venkatasubramanian. “*SmartParcels: Cross-Layer IoT Planning for Smart Communities*”, IEEE/ACM IoT Design and Implementation (IoTDI 2021), 2021.
- C-240 N. S. Alhassoun and N. Venkatasubramanian, "Cross-Layer Energy Optimization for IoT-Enabled Smart Spaces," *2020 IEEE International Conference on Pervasive Computing and Communications Workshops (PerCom Workshops)*, 2020, pp. 1-2, doi: 10.1109/PerComWorkshops48775.2020.9156152

- C-239 J Cao, J Chong, M Lafreniere, O Yang, P Pappachan, S Mehrotra, N Venkatasubramanian. *The ZotBins solution to waste management using the internet of things*. Poster. 18th ACM Conference on Embedded Networked Sensor System, 2020.
- C-238 Sameera Ghayyur, Primal Pappachan, Guoxi Wang, Sharad Mehrotra, and Nalini Venkatasubramanian. 2020. *Designing privacy preserving data sharing middleware for the Internet of Things*. In Proceedings of the Third ACM Workshop on Data: Acquisition To Analysis (DATA '20)., 1–6. DOI:<https://doi.org/10.1145/3419016.3431484>
- C-237 Michael August, Christopher Davison, Mamadou Diallo, Dhruvajyoti Ghosh, Peeyush Gupta, Christopher Graves, Shanshan Han, Michael Holstrom, Pramod Khargonekar, Megan Kline, Sharad Mehrotra, Shantanu Sharma, Nalini Venkatasubramanian, Guoxi Wang, and Roberto Yus. 2020. *A privacy-enabled platform for COVID-19 applications*: Poster abstract. Proceedings of the 18th ACM Conference on Embedded Networked Sensor Systems (ACM SenSys), 745–746. DOI:<https://doi.org/10.1145/3384419.3430594>.
- C-236 P Gupta, S Mehrotra, N Panwar, S Sharma, N Venkatasubramanian. Practical and Oblivious Mitigation Strategies for COVID-19 using WiFi Datasets, arXiv preprint arXiv:2005.02510.
- C-235 Nalini Venkatasubramanian, Craig A Davis, and Ronald T. Eguchi. 2020. *Designing community-based intelligent systems for water infrastructure resilience*. In Proceedings of the 3rd ACM SIGSPATIAL International Workshop on Advances in Resilient and Intelligent Cities (ARIC '20). Association for Computing Machinery, New York, NY, USA, 62–65. DOI:<https://doi.org/10.1145/3423455.3430318>
- C-234 Praveen Venkateswaran, Cheng-Hsin Hsu, Sharad Mehrotra, Nalini Venkatasubramanian. "REAM: Resource Efficient Adaptive Monitoring of Community Spaces at the Edge Using Reinforcement Learning", in IEEE International Conference on Smart Computing (SMARTCOMP), 2020. (**Best Paper Award**).
- C-233 Nailah Alhassoun, Md Yusuf Sarwar Uddin, Nalini Venkatasubramanian. "Multi-Network Provisioning for Perpetual Operations in IoT-Enabled Smart Spaces". In IEEE International Conference on Smart Computing (SMARTCOMP), 2020.
- C-232 Min-Han Tsai, Nalini Venkatasubramanian and Cheng-Hsin Hsu. "Analytics-Aware Storage of Surveillance Videos: Implementation and Optimization." In IEEE International Conference on Smart Computing (SMARTCOMP), 2020.
- C-231 Nisha Panwar, Shantanu Sharma, Peeyush Gupta, Dhruvajyoti Ghosh, Sharad Mehrotra and Nalini Venkatasubramanian, *IoT Expunge: Implementing Verifiable Retention of IoT Data*. ACM CODASPY 2020.
- C-230 Q. Han S. Mehrotra, and N. Venkatasubramanian. "AquaEIS: Middleware Support for Event Identification in Community Water Infrastructures". in the 20th International ACM/IFIP/USENIX Middleware Conference (Middleware'19).
- C-229 Qing Han, Sharad Mehrotra, Nalini Venkatasubramanian. 2019. Poster Abstract: "AquaSCALE - Exploring Resilience of Community Water Systems". In 20th International Middleware Conference (Middleware'19), December 8–13, 2019, Davis, CA, USA.
- C-228 Andrew Chio, Georgios Bouloukakis, Cheng-Hsin Hsu, Sharad Mehrotra, Nalini Venkatasubramanian. "Adaptive Mediation for Data Exchange in IoT Systems", 18th Workshop on Adaptive and Reflexive Middleware, held in conjunction with ACM Middleware 2019, Davis, CA, USA
- C-227 Phillip Lee, Eun-Jeong Shin, Valerie Guralnik, Sharad Mehrotra, Nalini Venkatasubramanian, Kevin Smith, "Exploring Privacy Breaches and Mitigation Strategies of Occupancy Sensors in Smart

- Buildings*”, Workshop on Technology Enablers for Smart Cities and Applications. held in conjunction with ACM BuildSys 2019.
- C-226 M.Y.S Uddin and N. Venkatasubramanian. [EnviroSCALE: Resilient Data Collection for Air Quality Monitoring in Developing Cities](#), Workshop on Technology Enablers for Smart Cities and Applications. held in conjunction with ACM BuildSys 2019.
- C-225 E. Shin, D. Ghosh, S. Mehrotra and N. Venkatasubramanian. "SCARF: A Scalable Data Management Framework for Context Aware Applications in Smart Environments", in the 16th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2019)..
- C-224 P. Venkateswaran and N. Venkatasubramanian. “IoT enabled data exchange for stormwater systems”, American Chemical Society Fall 2019 National Meeting & Exposition, Chemistry and Water, San Diego, CA, August, 2019 (abstract selected for oral presentation).
- C-223 R. Yus, G. Bouloukakis, S. Mehrotra and N. Venkatasubramanian. "Abstracting Interactions with IoT Devices Towards a Semantic Vision of Smart Spaces", in the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation(BuildSys'19)
- C-222 R. Yus, G. Bouloukakis, S. Almanee, D. Jiang, S. Ghayyur, D. Ghosh, P. Gupta, Y. Lin, S. Mehrotra, P. Pappachan, E. Shin, N. Venkatasubramanian and G. Wang. "SemIoTic: Bridging the Semantic Gap in IoT Spaces", in the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation - Posters & Demos (BuildSys'19 Posters & Demos)
- C-221 N. Panwar, S. Sharma, G. Wang, S. Mehrotra, N. Venkatasubramanian, M. Diallo and A. Amiri Sani. "IoT Notary: Sensor Data Attestation in Smart Environment", in the 18th IEEE International Symposium on Network Computing and Applications (NCA 2019) - **Best Paper Award**.
- C-220 Z. Zhang, C Guo, Z Fu, S Ren and N Venkatasubramanian. "Preventing Potential Hazards Caused by Medical Device Time Differences in Integrated Clinical Environments", in the 2019 IEEE International Conference on Embedded Software and Systems (IESS '19).
- C-219 Biswadip Maity, Bryan Donyanavard, Nalini Venkatasubramanian and Nikil Dutt. “Workload characterization for runtime memory management in emerging embedded platforms”. IFIP International Embedded Systems Symposium 2019.
- C-218 Q. Zhu, F. Sailhan, M. Y. S. Uddin, V. Issarny, and N. Venkatasubramanian. "[Multi-Sensor Calibration Planning in IoT-Enabled Smart Spaces](#)". in 39th IEEE International Conference on Distributed Computing Systems (ICDCS), 2019
- C-217 Hang Nguyen, Md Yusuf Sarwar Uddin, and Nalini Venkatasubramanian."Multistage Adaptive Load Balancing for Big Active Data Publish Subscribe Systems", in the 13th ACM International Conference on Distributed and Event-based Systems (DEBS '19), Darmstadt, Germany.
- C-216 Fangqi Liu, Qiuxi Zhu, Yusuf Sarwar, Cheng-Hsin Hsu and Nalini Venkatasubramanian. "[Cost-Effective Sensor Data Collection from Internet-of-Things Zones Using Existing Transportation Fleets](#)", in 2019 IEEE International Conference on Smart Computing (SMARTCOMP), 2019
- C-215 Van-Quyet Nguyen, Huu-Duy Nguyen, Quyet-Thang Huynh, Nalini Venkatasubramanian, Kyungbaek Kim. "[A Scalable Approach for Dynamic Evacuation Routing in Large Smart Buildings](#)", in 2019 IEEE International Conference on Smart Computing (SMARTCOMP), 2019.

- C-214 Praveen Venkateswaran, Mahima Agumbe Suresh, Nalini Venkatasubramanian, "Augmenting In-situ with Mobile Sensing for Adaptive Monitoring of Water Distribution Networks", in Proceedings of the 10th ACM/IEEE International Conference on Cyber-physical Systems (ICCPS), 2019.
- C-213 N. Panwar, S. Sharma, G. Wang, S. Mehrotra, and N. Venkatasubramanian, "Verifiable Round-Robin Scheme for Smart Homes". in the 9th ACM Conference on Data and Application Security and Privacy, CODASPY 2019, Dallas, TX, USA, March 25-27, 2019. ACM 2019.
- C-212 Kyle E. Benson, Georgios Bouloukakis, Casey Grant, Valerie Issarny, Sharad Mehrotra, Ioannis Moscholios, Nalini Venkatasubramanian. "FireDeX: a Prioritized IoT Data Exchange Middleware for Emergency Response", ACM/IFIP/USENIX Middleware 2018, Accepted for publication.
- C-211 Luca Scalzotto, Kyle E. Benson, Georgios Bouloukakis, Paolo Bellavista, Valerie Issarny, Sharad Mehrotra, Nalini Venkatasubramanian. "An Implementation Experience with SDN-Enable IoT Data Exchange Middleware", ACM/IFIP/USENIX Middleware 2018 (Posters and Demo Track), accepted for publication.
- C-210 Q. Han, R. T. Eguchi, S. Mehrotra, N. Venkatasubramanian "Enabling State Estimation for Fault Identification in Water Distribution Systems under Large Disasters". in 37th IEEE International Symposium on Reliable Distributed Systems (SRDS), 2018, pp. 1-10. **(Best Paper Award)**
- C-209 M. Y. S. Uddin, and N. Venkatasubramanian. "Edge Caching for Enriched Notifications Delivery in Big Active Data". in 38th IEEE International Conference on Distributed Computing Systems (ICDCS), Vienna, Austria, June 2018, pp. 696-705.
- C-208 Yu-Chen Hsieh, Hua-Jun Hong, Pei-Hsuan Tsai, Yu-Rong Wang, Qiuxi Zhu, Md Yusuf Sarwar Uddin, Nalini Venkatasubramanian, Cheng-Hsin Hsu. "Managed edge computing on Internet-of-Things devices for smart city applications," NOMS 2018 - 2018 IEEE/IFIP Network Operations and Management Symposium, Poster Paper, Taipei, 2018, pp. 1-2. doi: 10.1109/NOMS.2018.8406133
- C-207 Kyle E. Benson, Guoxi Wang, Nalini Venkatasubramanian, and Young-Jin Kim. "Ride: A Resilient IoT Data Exchange Middleware Leveraging SDN and Edge Cloud Resources". in Proceedings of 2018 ACM/IEEE Third International Conference on Internet-of-Things Design and Implementation (IoTDI), Orlando, Florida, USA, 2018, pp. 72-83.
- C-206 P. Venkateswaran, Q. Han, R. Eguchi, and N. Venkatasubramanian. "Impact Driven Sensor Placement for Leak Detection in Community Water Networks". in Proceedings of the 9th ACM/IEEE International Conference on Cyber-physical Systems. ACM, 2018, pp. 77-87.
- C-205 Q. Zhu, M. Y. S. Uddin, N. Venkatasubramanian, C. Hsu, and H. Hong. "Poster Abstract: Enhancing Reliability of Community Internet-of-Things Deployments with Mobility". in IEEE INFOCOM WKSHPs 2018-IEEE Conference on Computer Communications Workshops, 2018, pp. 1-2.
- C-204 Qiuxi Zhu, Yusuf Sarwar, Chenghsin Hsu and Nalini Venkatasubramanian. "Spatiotemporal Scheduling for Crowd Augmented Urban Sensing", IEEE INFOCOM 2018, pp. 1997-2005. **(Best-in-Session Presentation Award)**
- C-203 Hua-Jun Hong, Pei-Hsuan Tsai, An-Chieh Cheng, Md Yusuf Sarwar Uddin, Nalini Venkatasubramanian, and Cheng-Hsin Hsu. "Supporting Internet-of-Things Analytics in a Fog Computing Platform". 9th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2017), Dec 11-14, 2017, Hong Kong, pp. 138-145. **(Best Paper Award)**.
- C-202 Mahmudur Rahman Hera, Amatur Rahman, Afia Afrin, Hua-Jun Hong, Pei-Hsuan Tsai, Md Yusuf Sarwar Uddin, Nalini Venkatasubramanian and Cheng-Hsin Hsu. "Adaptive Sensing Using Internet-of-Things with Constrained Communications". Workshop on Adaptive and Reflective

- Middleware (ARM), co-located with ACM/IFIP/USENIX Middleware, Dec 11-15, 2017, Las Vegas, pp. 1-6.
- C-201 Eun-Jeong Shin, Roberto Yus, Sharad Mehrotra, and Nalini Venkatasubramanian, “*Exploring Fairness in Participatory Thermal Comfort Control in Smart Buildings*”, in 4th ACM International Conference on Systems for Energy-Efficient Built Environments (ACM BuildSys 2017), Delft (The Netherlands), 2017, pp. 1-10.
- C-200 Nailah Alhassoun, Yusuf Sarwar, Nalini Venkatasubramanian. “*SAFER: An IoT-Based Perpetual Safe Community Awareness and Alerting Network*”, Special Track on Contemporary Issues in Sustainable Computing’, IEEE IGSC 2017, pp. 1-8.
- C-199 Mahmudur Rahman Hera, Amatur Rahman, Afia Afrin, Md Yusuf Sarwar Uddin, Nalini Venkatasubramanian *AQBox: An air quality measuring box from COTS gas sensors* 2017 International Conference on Networking, Systems and Security (NSysS), 2017, pp. 191-194.
- C-198 Ronald T. Eguchi, Sharad Mehrotra, Nalini Venkatasubramanian. “*Integrating Sensing and Simulation for Rapid and Effective Early Warning of Tsunami Effects (Type 1 - whitepaper)*”. The 1st US-Japan Workshop Enabling Global Collaborations in Big Data Research, held in conjunction with IEEE ICDCS 2017, June 2017, pp. 86-90.
- C-197 Steven Jacobs, Md Yusuf Sarwar Uddin, Michael Carey, Vagelis Hristidis, Vassilis Tsotras, Nalini Venkatasubramanian. “*A BAD Demonstration: Towards Big Active Data*” (DEMO Paper). in Proceedings of the VLDB Endowment (2017), pp. 1941-1944.
- C-196 Steven Jacobs, Md Yusuf Sarwar Uddin, Michael Carey, Vagelis Hristidis, Vassilis Tsotras, Nalini Venkatasubramanian, “*Towards Situational Awareness on Big Data: A BAD Approach*”. in International Workshop on Real-time Analytics in Multi-latency, Multi-Party, Metro-scale Networks (RAMMNETs), Sponsored and Held in conjunction with IEEE ICDE 2017.
- C-195 Q. Han, P. Nguyen, R. T. Eguchi, K.L. Hsu, and N. Venkatasubramanian. “*Toward An Integrated Approach to Localizing Failures in Community Water Networks (DEMO Paper)*”. in 37th IEEE International Conference on Distributed Computing Systems (ICDCS), 2017, Atlanta, June 2017, pp. 2505-2506.
- C-194 Primal Pappachan, Martin Degeling, Roberto Yus, Anupam Das, Sruti Bhagavatula, William Melicher, Pardis Emami Naeini, Shikun Zhang, Lujo Bauer, Alfred Kobsa, Sharad Mehrotra, Norman Sadeh, and Nalini Venkatasubramanian. “*Towards Privacy-Aware Smart Buildings: Capturing, Communicating, and Enforcing Privacy Policies and Preferences*”. in International Workshop on the Internet of Things Computing and Applications (IoTCA 2017) , In Conjunction with 37th IEEE International Conference on Distributed Computing Systems (ICDCS), 2017, pp. 193-198, to be published.
- C-193 Q. Han, P. Nguyen, R. T. Eguchi, K.L. Hsu, and N. Venkatasubramanian. “*Toward An Integrated Approach to Localizing Failures in Community Water Networks*”. in 37th IEEE International Conference on Distributed Computing Systems (ICDCS), 2017, pp. 1250-1260, to be published.
- C-192 S. Mehrotra, A. Kobsa, N. Venkatasubramanian, S. R. Rajagopalan. “*TIPPERS: A Privacy Cognizant IoT Environment*”. in First IEEE International Workshop on Security, Privacy and Trust for IoT, Sydney, Australia. 2016, pp. 1-6.
- C-191 M. Y. S. Uddin, A. Nelson, K. Benson, G. Wang, Q. Zhu, Q. Han, N. Alhassoun, P. Chakravarthi, J. Stamatakis, D. Hoffman, S. Almomen, L. Darcy, and N. Venkatasubramanian. “*The SCALE2 Multi-network Architecture for IoT-based Resilient Communities*”. in 2016 IEEE International Conference on Smart Computing (SMARTCOMP), 2016, pp. 1-8.



- C-190 Q. Zhu, M. Y. S. Uddin, Z. Qin, and N. Venkatasubramanian. *"Upload Planning for Mobile Data Collection in Smart Community Internet-of-Things Deployments"*. in 2016 IEEE International Conference on Smart Computing (SMARTCOMP), 2016, pp. 1-8. **(Best Paper nominee)**
- C-189 K. E. Benson, Q. Han, K. Kim, P. Nguyen, and N. Venkatasubramanian. *"Resilient Overlays for IoT-based Community Infrastructure Communications"*. in 2016 IEEE First International Conference on Internet-of-Things Design and Implementation (IoTDI), 2016, pp. 152-163.
- C-188 Md Yusuf Sarwar Uddin, Vinay Setty, Ye Zhao, Roman Vitenberg, Nalini Venkatasubramanian. *"RichNote: Adaptive Selection and Delivery of Rich Media Notifications to Mobile Users"*. IEEE International Conference on Distributed Computing Systems (ICDCS 2016), June 27-30, 2016, pp. 159-168.
- C-187 Ranga Raj, Sarath Babu, Kyle Benson, Gaurav Jain, B. S. Manoj, and Nalini Venkatasubramanian. *Efficient Path Rescheduling of Heterogeneous Mobile Data Collectors for Dynamic Events in Shanty Town Emergency Response*. IEEE Globecom 2015, San Diego CA.
- C-186 Marco Levorato, Nalini Venkatasubramanian, Nikil D. Dutt: *Heat-aware transmission strategies*. IEEE Information Theory and Applications Workshop (ITA) 2015: 154-162
- C-185 Nga Dang, Roberto Valentini, Eli Bozorgzadeh, Marco Levorato, and Nalini Venkatasubramanian. 2015. *A Unified Stochastic Model for Energy Management in Solar-Powered Embedded Systems*. In Proceedings of the IEEE/ACM International Conference on Computer-Aided Design (ICCAD '15). IEEE Press, 621-626.
- C-183 S. Sarma, N. Dutt, P. Gupta, N. Venkatasubramanian, and A. Nicolau. 2015. *Cyberphysical-system-on-chip (CPSoC): a self-aware MPSoC paradigm with cross-layer virtual sensing and actuation*. In Proceedings of the 2015 Design, Automation & Test in Europe Conference & Exhibition (DATE '15). EDA Consortium, S 625-628.
- C-182 Nga Dang, Hossein Tajik, Nikil Dutt, Nalini Venkatasubramanian, Eli Bozorgzadeh. *Orchestrated application quality and energy storage management in solar-powered embedded systems*, 2015 16th International Symposium on Quality Electronic Design (ISQED) 2015, Pages 227-233.
- C-181 Di Wu, Qiang Liu, Yuan Zhang, Julie McCann, Amelia Regan, and Nalini Venkatasubramanian. 2014. *CrowdWiFi: Efficient Crowdsensing of Roadside WiFi Networks*. In Proceedings of the 15th International Middleware Conference (Middleware '14). ACM, 229-240.
- C-180 S. Sarma, N. Dutt, P. Gupta, A. Nicolau, and N. Venkatasubramanian. *On-chip Self-awareness Using Cyberphysical-Systems-on-Chip (CPSoC)*. In Proceedings of the 2014 Int'l Conference on Hardware/Software Codesign and System Synthesis (CODES '14). ACM, Article 22 , 3 pages. 2014.
- C-179 Gaurav Jain, Sarath Babu, Ranga Raj, Kyle Benson, BS Manoj, Nalini Venkatasubramanian. *On disaster information gathering in a complex shanty town terrain*, IEEE Global Humanitarian Technology Conference-South Asia Satellite (GHTC-SAS), 2014, pp 147-153, September 2014.
- C-178 Santanu Sarma, Nalini Venkatasubramanian, and Nikil Dutt. 2014. *Sense-making from Distributed and Mobile Sensing Data: A Middleware Perspective*. In Proceedings of the 51st Annual Design Automation Conference (DAC '14). ACM, New York, NY, USA, Article 68, 6 pages. June 2014.
- C-177 Ye Zhao, Ngoc Do, Shu-Ting Wang, Cheng-Hsin Hsu, Nalini Venkatasubramanian. *Enabling offline access to Facebook streams on mobile devices*, Proceedings Demo & Poster Track of ACM/IFIP/USENIX International Middleware Conference, Pages 2, December 2013.

- C-176 Ngoc Do Minh, Ye Zhao, Shu-Ting Wang, Cheng-Hsin Hsu, and Nalini Venkatasubramanian. *Optimizing Offline Access to Online Social Networks*. IEEE Infocom 2014, pp. 1950-1958, 2014.
- C-175 Kiyoshi Nakayama, Nga Dang, Lubomir Bic, Eli Bozorgzadeh, Michael Dillencourt, Nalini Venkatasubramanian. *Distributed Flow Optimization Control for Energy-Harvesting Wireless Sensor Networks*. IEEE Int'l Conference on Communications (ICC), 2014, pp. 4083 - 4088.
- C-174 Yu-Siang Huang, Cheng-Hsin Hsu, Magda El Zarki, Aiman Erbad, Nalini Venkatasubramanian. *On Optimizing MMVEs in Network-Aware Clouds*, 6th International Workshop on Massive Multi-user Virtual Environments (MMVE2014), Short Paper. March 2014.
- C-173 Zhijing Qin, Grit Denker, Carlo Gianelli, Paolo Bellavista, Nalini Venkatasubramanian. *A Software Defined Networking Architecture for the Internet-of-Things*. IEEE/IFIP Network Operations and Management Symposium (NOMS) 2014. 5-9 May 2014, pp. 1 - 9, 2014.
- C-172 Zhijing Qin, Luca Iannario, Carlo Giannelli, Paolo Bellavista, Grit Denker, Nalini Venkatasubramanian. *MINA: A Multinetwork INFORMATION Architecture for Managing Heterogeneous Pervasive Networks*. Accepted, to appear in IEEE/IFIP Network Operations and Management Symposium (short paper), NOMS 2014, Pages 1 - 4, May 2014.
- C-171 Zhijing Qin, Ngoc Do, Grit Denker, Nalini Venkatasubramanian. *Software-Defined Cyber-Physical Multinetworks*, IEEE International Conference on Computing, Networking and Communications, IEEE ICNC 2014, February 2014.
- C-170 Jack Brouwer, G.P. Li, Sharad Mehrotra and Nalini Venkatasubramanian. *Integrating Testbeds for Safety and Sustainability in Smartspaces*, Whitepaper, Accepted to the NIST/White House SmartAmerica Workshop, 2013.
- C-169 Eli Bozorgzadeh and Nalini Venkatasubramanian. *Self-sustainable CyberPhysical Spaces Through Distributed MicroScale Energy Harvesting*, NSF National Workshop on Energy Cyber Physical Systems, December 2013, Position Paper.
- C-168 Ye Zhao, Ngoc Do, Shu-Ting Wang, Cheng-Hsin Hsu and Nalini Venkatasubramanian. *Enabling Offline Access to Facebook Streams On Mobile Devices*, demo paper at ACM/IFIP/USENIX International Middleware Conference (MIDDLEWARE'13), 2013.
- C-167 Ye Zhao, Ngoc Do, Shu-Ting Wang, Cheng-Hsin Hsu and Nalini Venkatasubramanian. *O2SM: Enabling Efficient Offline Access to Online Social Media and Social Networks*, ACM/IFIP/USENIX International Middleware Conference (Middleware'13), 2013.
- C-166 Ye Zhao, Kyungbaek Kim and Nalini Venkatasubramanian. *DYNATOPS: A Dynamic Topic-based Publish/Subscribe Architecture*, ACM International Conference on Distributed Event-Based Systems Conference (DEBS), pages 75-86, 2013.
- C-165 Ye Zhao and Nalini Venkatasubramanian. *Towards Efficient GeoSocial Content Dissemination*, Doctoral Workshop, ACM Int'l Conference on Distributed Event-Based Systems (DEBS'13), 2013.
- C-164 Nga Dang, Mahnaz Roshanaei, Elaheh Bozorgzadeh, Nalini Venkatasubramanian. "Adapting Data Quality with Multihop Routing for Energy Harvesting Wireless Sensor Networks", Work in Progress Paper, International Green Computing Conference (IGCC 2013), June 2013, Arlington, VA.
- C-163 M. Reza. Rahimi, Nalini Venkatasubramanian, Athanasios Vasilakos, *MuSIC: On Mobility-Aware Optimal Service Allocation in Mobile Cloud Computing*, In the IEEE 6th International Conference on Cloud Computing, (IEEE Cloud 2013), July 2013, Silicon Valley, CA.

- C-162 Kiyoshi Nakayama, Kyle E. Benson, Vahe Avagyan, Michael Dillencourt, Lubomir Bic, Nalini Venkatasubramanian. *Tie-set Based Fault Tolerance for Autonomous Recovery of Double-Link Failures*, IEEE Symposium on Computers and Communications (ISCC), 2013.
- C-161 Zhijing Qin, Luca Iannario, Carlo Gianelli, Paolo Bellavista, Nalini Venkatasubramanian. *Smart Communications via a Tree-based Overlay Multiple and Heterogeneous (TOMH) Spontaneous Networks*, IEEE SACONET 2013, Paris.
- C-160 Kyle E. Benson and Nalini Venkatasubramanian. *Improving Sensor Data Delivery During Disaster Scenarios with Resilient Overlay Networks*, proceedings of Third International Workshop on Pervasive Networks for Emergency Management 2013 (PerNEM 2013), in conjunction with IEEE PERCOM 2013. PerCom Workshops 2013: pp. 547-552
- C-159 Zhijing Qin, Grit Denker, Carolyn Talcott, Nalini Venkatasubramanian. *Achieving Resilience of Heterogeneous Networks Through Predictive, Formal Analysis*, 2nd ACM International Conference on High Confidence Networked Systems (HiCoNS), as part of Cyber Physical Systems (CPS) 2013.
- C-158 Zhijing Qin, Ye Zhao, Nalini Venkatasubramanian. *Modeling Path Duration Time in Dynamic Convergecast Networks*. Proceedings of IEEE Wireless Communications and Networking Conference (WCNC), 2013, 2179-2184.
- C-157 Santanu Sarma. Nikil Dutt. Nalini Venkatasubramanian. *Cross-Layer Virtual Observers for Embedded Multiprocessor System-On-Chip (MPSoC)*. ACM Workshop on Adaptive and Reflective Middleware (ARM 2012) to be held in conjunction with ACM Middleware 2012: 4, December 2012.
- C-156 Do, N., Venkatasubramanian, N. *Rich Content Sharing in Mobile Systems using Multiple Wireless Networks*. Middleware 2012.
- C-155 Ngoc Do, Cheng-hsin Hsu, Nalini Venkatasubramanian. *CrowdMAC: A Crowdsourcing System for Mobile Access*, ACM/IFIP/USENIX Middleware 2012, pp. 1-20.
- C-154 M. Reza. Rahimi, Nalini Venkatasubramanian. Sharad Mehrotra and Athanasios Vasilakos, *MAPCloud: Mobile Applications on an Elastic and Scalable 2-Tier Cloud Architecture*, In the 5th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2012), November 2012, pp. 83-90
- C-153 Nabil Adam, Jayan Eledath, Sharad Mehrotra, Nalini Venkatasubramanian. *Social Media Alert and Response to Threats to Citizens (SMART-C)*, Invited Paper, In 8th IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCOM 2012), October 2012, pp. 181-189.
- C-152 Kyungbaek Kim, Ye Zhao, Nalini Venkatasubramanian. *GSFord: Towards a Reliable Geo-Social Notification System*, IEEE Intl. Symposium on Reliable Distributed Systems (SRDS) 2012, October 2012, pp. 267-272
- C-151 Ngoc Do, Cheng-hsin Hsu, Nalini Venkatasubramanian. *HybCAST: Rich Content Dissemination in Hybrid Cellular and 802.11 Ad Hoc Networks*, IEEE International Symposium on Reliable Distributed Systems (SRDS) 2012, October 2012: 352-361.
- C-150 Mamadou H. Diallo, Bijit Hore, Ee-Chien Chang, Sharad Mehrotra, Nalini Venkatasubramanian. *CloudProtect: Managing Data Privacy in Cloud Applications*, IEEE CLOUD, June 2012, pp. 303-310.
- C-149 M. Reza. Rahimi, Nalini Venkatasubramanian. "Exploiting an Elastic 2-Tiered Cloud Architecture for Rich Mobile Applications" (poster paper), IEEE/ACM 13th International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM 2012), June 2012.

- C-148 Leila Jalali, Sharad Mehrotra, Carolyn Talcott, Nalini Venkatasubramanian. *Formal Specification of Multisimulation using Maude*, SpringSim (TMS-DEVS), Theory of Modeling and Simulation (formerly known as the DEVS Integrative M&S), 2012:22.
- C-147 Do Minh Ngoc, Chenghsin Hsu, Xin, Nalini Venkatasubramanian. *An Experimental Study on Scalable Video Streaming over Hybrid Cellular AdHoc Networks*, ACM/IFIP/USENIX International Middleware Conference, 2011 (Poster paper).
- C-146 Jinsu Wang, Kyungbaek Kim, Sharad Mehrotra, Nalini Venkatasubramanian. *Enhancing Cellular Infrastructures: A Reflective Approach*, ACM Workshop on Adaptive and Reflective Middleware (ARM 2011) held in conjunction with ACM Middleware 2011.
- C-145 Haiyang Ma, Deepak Gangadharan, Nalini Venkatasubramanian. Roger Zimmerman. *Energy-Aware Complexity Adaptation for Mobile Video Calls*, In ACM Multimedia 2011 (short paper).
- C-144 Leila Jalali, Sharad Mehrotra, Nalini Venkatasubramanian. *Multisimulations: Towards Next Generation Integrated Simulation Environments*, FHCT, Lecture Notes in Computer Science, Springer-Verlag, 2011.
- C-143 Minyoung Kim, Mark-Oliver Stehr, Carolyn Talcott, Nikil Dutt, Nalini Venkatasubramanian. *A Formal Methodology for Compositional Cross-Layer Optimization*, FHCT, Lecture Notes in Computer Science, Springer-Verlag, 2011.
- C-142 Nga Dang, Elaheh Bozorgzadeh and Nalini Venkatasubramanian. *QuARES: Quality-aware Data Collection in Energy Harvesting Sensor Networks*, 2nd IEEE Green Computing Conference 2011 (IGCC 2011).
- C-141 Sebastian Gutierrez-Nolasco, Nalini Venkatasubramanian, Carolyn Talcott and Mark-Oliver Stehr, *Tailoring Group Membership Consistency for Mobile Networks* IEEE 2011 International Conference on Collaboration Technologies and Systems (CTS 2011), May 2011.
- C-140 Ngoc Do Minh, Cheng-Hsin Hsu, Jatinder Pal Singh and Nalini Venkatasubramanian. *Massive Live Video Distribution using Hybrid Cellular and Ad Hoc Networks*, 12th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM 2011), 2011.
- C-139 Leila Jalali, Sharad Mehrotra, and Nalini Venkatasubramanian. *Interoperability of Multiple Autonomous Simulators in Integrated Simulation Environments*. Spring SIW - Simulation Interoperability Workshop, Vol. 11, April 2011.
- C-138 Leila Jalali, Sharad Mehrotra, and Nalini Venkatasubramanian. *Middleware Solutions for Integrated Simulation Environments*. MDS'2010.
- C-137 Kyungbaek Kim and Nalini Venkatasubramanian. *FaReCast: Fast, Reliable Application Layer Multicast for Flash Dissemination*, ACM/IFIP/USENIX Middleware 2010.
- C-136 Kyungbaek Kim and Nalini Venkatasubramanian. *Assessing the impact of geographically correlated failures on overlay-based Dissemination*, IEEE Globecom 2010.
- C-135 Bo Xing, Sharad Mehrotra and Nalini Venkatasubramanian. *Disruption-Tolerant Spatial Dissemination*, IEEE SECON 2010.
- C-134 Do Minh Ngoc, Kyungabaek Kim, Sharad Mehrotra and Nalini Venkatasubramanian. *Enabling Fast, Reliable Notification over MultiNetworks*. Position Paper. 2nd Workshop on Research Directions in Situational-aware Self-managed Proactive Computing in Wireless Adhoc Networks (SSPC-WAN), held in conjunction with 11th IEEE International Conf on Mobile Data Management (MDM 2010).

- C-133 Vidhya Balasubramanian, Dmitri V. Kalashnikov, Sharad Mehrotra, and Nalini Venkatasubramanian. *Efficient and scalable multi-geography route planning*, EDBT 2010.
- C-132 Bo Xing, Mayur Deshpande, Sharad Mehrotra and Nalini Venkatasubramanian. *Gateway Designation for Timely Communications in Instant Mesh Networks*. IEEE Workshop on Pervasive Wireless Networks 2010, held in conjunction with IEEE PERCOM 2010, February 2010.
- C-131 Stefano Bonetti, Sharad Mehrotra, Nalini Venkatasubramanian. *Exploring Quality in MultiSensor Pervasive Systems - A Localization Case Study*. IEEE Workshop on Information Quality & Quality of Service in Pervasive Systems (I2QS'10), held in conjunction with PERCOM 2010.
- C-130 Chris Davison, Daniel Massaguer, Lilia Paradi, M. Reza Rahimi, Bo Xing, Qi Han, Sharad Mehrotra, Nalini Venkatasubramanian. *Practical Experiences in Enabling and Ensuring Quality Sensing In Emergency Response Applications*. IEEE Workshop on Pervasive Networks for Emergency Management (PERNEM'10) held in conjunction with IEEE PERCOM 2010.
- C-129 Hojjat Jafarpour, Bijit Hore, Sharad Mehrotra and Nalini Venkatasubramanian. *CCD: Efficient Customized Content Dissemination in Distributed Publish/Subscribe*, ACM/IFIP/USENIX Middleware 2009, Urbana-Champaign, IL, November 2009.
- C-128 Daniel Massaguer, Bijit Hore, Mamadou H. Diallo, Sharad Mehrotra, Nalini Venkatasubramanian. *Middleware for Pervasive Spaces: Balancing Privacy and Utility*, ACM/IFIP/USENIX Middleware 2009, Urbana-Champaign, USA, November 2009. ([pdf](#)), ([presentation](#)).
- C-127 L. Jalali, V. Balasubramanian, S. Mehrotra, N. Venkatasubramanian. "Metasim: Reflective Middleware Solutions for Simulation Integration", Demo Paper, ACM/IFIP/USENIX Middleware 2009.
- C-126 L. Jalali, N. Venkatasubramanian, and S.Mehrotra, *A Reflective Middleware Architecture for Simulation Integration*, the 8th workshop on Adaptive and Reflective Middleware (ARM09) 2009.
- C-125 Naveen Ashish, Jay Lickfett, Sharad Mehrotra and Nalini Venkatasubramanian. *Rapid Information Integration for Emergency Response*. DHS Workshop on Emergency Management: Incident, Resource and Supply Chain Management (EMWS'09), November 2009.
- C-124 Dmitri V. Kalashnikov, Dilek Hakkani-Tur, Gokhan Tur, and Nalini Venkatasubramanian. *Speech-based situational awareness for crisis response*. In. DHS Workshop on Emergency Management: Incident, Resource, and Supply Chain Management (EMWS09), Nov 5-6, 2009.
- C-123 Hojjat Jafarpour, Sharad Mehrotra, Nalini Venkatasubramanian and Mirko Montanari. *MICS: An Efficient Content Space Representation Model for Publish/Subscribe Systems*, ACM International Conference on Distributed Event-Based Systems (DEBS) 2009, Nashville, TN, , July 2009.
- C-122 Naveen Ashish, Jay Lickfett, Sharad Mehrotra and Nalini Venkatasubramanian. *The Software EBox: Integrated Information for Situational Awareness*, IEEE Intelligence and Security Informatics (ISI), June 2009, Dallas. [[PDF](#)]
- C-121 Hojjat Jafarpour, Sharad Mehrotra and Nalini Venkatasubramanian. *Dynamic Load Balancing for Cluster-based Publish/Subscribe System*, IEEE International Symposium on Applications and the Internet (SAINT) 2009, Seattle, WA, July 2009.
- C-120 Bo Xing, Sharad Mehrotra and Nalini Venkatasubramanian. *RADcast: Enabling Reliability Guarantees for Content Dissemination in Ad Hoc Networks*. The 28th Conference on Computer Communications (IEEE INFOCOM 2009). April 19 - 25, 2009. Rio de Janeiro, Brazil.

- C-119 Bo Xing, Karim Seada, Nalini Venkatasubramanian. *An Experimental Study on Wi-Fi Ad-Hoc Mode for Mobile Device-to-Device Video Delivery*, IEEE INFOCOM 2009 Workshop on Mobile Video Delivery (MoViD 2009). April 24, 2009. Rio de Janeiro, Brazil.
- C-118 Bijit Hore, Jehan Wickramasuriya, Sharad Mehrotra, Nalini Venkatasubramanian, Daniel Massaguer. *Privacy-Preserving Event Detection in Pervasive Spaces*. IEEE Pervasive Computing and Communications (Percom 2009), March 2009, Galveston, Texas.
- C-117 Bo Xing, Karim Seada and Nalini Venkatasubramanian. *Proximiter: Enabling Mobile Proximity-Based Content Sharing on Portable Devices (Demo Paper)*. The 7th IEEE International Conference on Pervasive Computing and Communications (PerCom 2009). March 2009. Galveston, Texas.
- C-116 Bo Xing, Karim Seada, Peter Boda and Nalini Venkatasubramanian. *PassItOn: An Opportunistic Messaging Prototype on Mobile Devices (Demo Paper)*. The 6th Annual IEEE Consumer Communications & Networking Conference (CCNC 2009). January 2009. Las Vegas, Nevada.
- C-115 Chaitanya Desai, Dmitri V. Kalashnikov, Sharad Mehrotra, and Nalini Venkatasubramanian. *Using Semantics for Speech Annotation of Images*. Proc. of IEEE International Conference on Data Engineering (IEEE ICDE), short publication, March 29 - April 4, 2009.
- C-114 Hojjat Jafarpour, Bijit Hore, Sharad Mehrotra and Nalini Venkatasubramanian. *Subscription Subsumption Evaluation for Content-based Publish/Subscribe Systems*, ACM/IFIP/USENIX Middleware 2008, Leuven, Belgium, December 2008.
- C-113 Ravi Chandra Jammalamadaka, Roberto Gamboni, Sharad Mehrotra, Kent Seamons, Nalini Venkatasubramanian. *DataGuard: An Interoperable Security Middleware for Untrusted Internet Data Storage*, WiP Paper, ACM/IFIP/USENIX Middleware 2008, Leuven, Belgium, 2008.
- C-112 Kyoungwoo Lee, Aviral Shrivastava, Minyoung Kim, Nikil Dutt, and Nalini Venkatasubramanian. *Mitigating the Impact of Hardware Failures on Multimedia Applications - A Cross-Layer Approach*, to appear in ACM International Conference on Multimedia (ACM MM 08), October 2008.
- C-111 Minyoung Kim, Daniel Massaguer, Nikil Dutt, Sharad Mehrotra, Shangping Ren, Mark-Oliver Stehr, Carolyn Talcott, Nalini Venkatasubramanian. *A Semantic Framework for Reconfiguration of Instrumented Cyber Physical Spaces*, Second Workshop on Event-based Semantics (WEBS'08) in conjunction with IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS'08) in part of CPSWEEK, April 2008, St. Louis, MO.
- C-110 Jay Lickfett, Naveen Ashish, Sharad Mehrotra, Nalini Venkatasubramanian and Jacob Green. *The RESCUE Disaster Portal for Disasters and Emergency Response*, The 5th International ISCRAM Conference, May 2008, Washington DC.
- C-109 Kyoungwoo Lee, Aviral Shrivastava, Nikil Dutt, and Nalini Venkatasubramanian. *Data Partitioning Techniques for Partially Protected Caches to Reduce Soft Error Induced Failures*, IFIP Working Conference on Distributed and Parallel Embedded Systems (DIPES 08), September 2008.
- C-108 Kyoungwoo Lee, Minyoung Kim, Nikil Dutt, and Nalini Venkatasubramanian. *Error-Exploiting Video Encoder to Extend Energy/QoS Tradeoffs for Mobile Embedded Systems*, IFIP Working Conference on Distributed and Parallel Embedded Systems (DIPES 08), September 2008.
- C-107 Yun Huang and Nalini Venkatasubramanian. *Mobile Data Overlay (MDO): A Data Placement Paradigm for Mobile Applications*, 9th Int'l Conference on Mobile Data Management 2008.

- C-106 Minyoung Kim, Mark-Oliver Stehr, Carolyn Talcott, Nikil Dutt, Nalini Venkatasubramanian. *Constraint Refinement for Online Verifiable Cross-Layer System Adaptation*, in IEEE/ACM Design Automation and Test in Europe (DATE'08), March 2008, Munich, Germany.
- C-105 Minyoung Kim, Nikil Dutt, Nalini Venkatasubramanian, Carolyn Talcott. *xTune: Online Verifiable Cross-Layer Adaptation for Distributed Real-Time Embedded Systems*, SIGBED Review, Vol. 5, No. 1, January 2008, Special Issue on the RTSS Forum on Deeply Embedded Real-Time Computing. **Best Overall Idea Award & Best System Architecture Award** at IEEE RTSS '07 Ph.D. Forum.
- C-104 Ravi Chandra Jammalamadaka, Roberto Gamboni, Sharad Mehrotra, Kent Seamons, Nalini Venkatasubramanian. *iDataGuard: Middleware Providing a Secure Network Drive Interface to Untrusted Internet Data Storage*, Demo Paper, EDBT 2008.
- C-103 Ronen Vaisenberg, Shengyue Ji, Bijit Hore, Sharad Mehrotra, Nalini Venkatasubramanian. *Exploiting Semantics for Sensor Re-Calibration in Event Detection Systems*, ACM/SPIE Symposium on Multimedia Computing and Networking, MMCN 2008.
- C-102 Jinsu Wang, Sharad Mehrotra and Nalini Venkatasubramanian. *PBCA - Prediction Based Channel Allocation*, Proceedings of IEEE Globecom 2007, December 2007.
- C-101 Minyoung Kim, Mark-Oliver Stehr, Carolyn Talcott, Nikil Dutt and Nalini Venkatasubramanian. *Combining Formal Verification with Observed System Execution Behavior to Tune System Parameters*, The 5<sup>th</sup> International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS 2007), Guest conference of the Embedded Systems Week (ESWEEK) 2007.
- C-100 B. Hore, H. Jafarpour, R. Jain, S. Ji, D. Massaguer, S. Mehrotra, N. Venkatasubramanian and U. Westermann. *SATWare: Middleware for Sentient Spaces*. IEEE Workshop on Multimodal Sentient Computing: Sensors, Algorithms and Systems (WMSC 2007) held in conjunction with CVPR 2007 conference. **Best Student Paper Award.**
- C-99 Ravi Chandra Jammalamadaka, Roberto Gamboni, Sharad Mehrotra, Kent Seamons, Nalini Venkatasubramanian. *gVault: A Gmail Based Cryptographic Network File System*. In the proceedings of 21st Annual IFIP WG 11.3 Conference on Data and Applications.
- C-98 Yun Huang and Nalini Venkatasubramanian. *MAPGrid: A New Architecture for Empowering Mobile Data Placement in Grid Environments* Poster Paper, Seventh IEEE International Symposium on Cluster Computing and the Grid 2007,(CCGrid07), Brazil.
- C-97 Minyoung Kim, Mark-Oliver Stehr, Carolyn Talcott, Nikil Dutt, Nalini Venkatasubramanian. *A Probabilistic Formal Approach to Cross-layer Optimization in Distributed Embedded Systems*, IFIP Conference on Formal Methods for Open Object-Based Distributed Systems (FMOODS'07), Paphos, Cyprus, LNCS 4468 (pp. 285-300), June 2007.
- C-96 Mayur Deshpande, Abhishek Amit, Mason Chang, Nalini Venkatasubramanian and Sharad Mehrotra. *Flashback: A Peer-to-Peer Webserver for Handling Flash Crowds*, IEEE International Conference on Distributed Computing Systems (ICDCS). 2007
- C-95 Xingbo Yu, Sharad Mehrotra and Nalini Venkatasubramanian. *Sensor Scheduling for Aggregate Monitoring in Wireless Sensor Networks*, Proceedings of the International Conference on Scientific and Statistical Database Management (SSDBM) 2007.
- C-94 Bijit Hore, Hojjat Jafarpour, Ramesh Jain, Shengyue Ji, Daniel Massaguer, Sharad Mehrotra, Nalini Venkatasubramanian and Utz Westermann, *Design and Implementation of a Middleware for Sentient Spaces*, Proceedings of IEEE ISI 2007.

- C-93 Mirko Montanari, Sharad Mehrotra and Nalini Venkatasubramanian. *Architecture for an Automatic Customized Warning Dissemination System*, Proceedings of IEEE ISI 2007.
- C-92 Yiming Ma, Dmitri Kalashnikov, Sharad Mehrotra, Nalini Venkatasubramanian, Ram Hariharan, Naveen Ashish and Jay Lickfett. *On-Demand Information Portals for Disaster Situations*, Proceedings of IEEE ISI 2007.
- C-91 Yun Huang, Nalini Venkatasubramanian and Yang Wang. *Empowering Multimedia Applications in MAPGrid*, Workshop on Context-Awareness and Mobility in Grid Computing, in Seventh IEEE International Symposium on Cluster Computing and the Grid 2007 (CCGrid 2007), Brazil, 2007.
- C-90 Bo Xing, Mayur Deshpande, Nalini Venkatasubramanian and Sharad Mehrotra. *Towards Reliable Application Data Broadcast in Wireless Ad Hoc Networks*, IEEE Wireless Communications and Networking Conference (WCNC). 2007
- C-89 Iosif Lazaridis, Qi Han, Sharad Mehrotra, Nalini Venkatasubramanian. *Fault-Tolerant Queries over Sensor Data*, 13th Int'l Conference on Management of Data (COMAD), Delhi, India, 2006
- C-88 Minyoung Kim, Sudarshan Banerjee, Nikil Dutt, Nalini Venkatasubramanian. *Design Space Exploration of Real-time Multi-media MPSoCs with Heterogeneous Scheduling Policies*, IEEE/ACM/IFIP Conference on Hardware/Software Codesign and System Synthesis (CODES-ISSS'06), October 2006, Seoul, South Korea.
- C-87 Minyoung Kim, Nikil Dutt, Nalini Venkatasubramanian. *Policy Construction and Validation for Energy Minimization in Cross Layered Systems: A Formal Method Approach*, IEEE Real-Time and Embedded Technology & Applications Symposium (RTAS'06) Work-in-Progress Session, 2006.
- C-86 S. Gutierrez-Nolasco, N. Venkatasubramanian, M-O. Stehr and C. Talcott. *Towards Adaptive Secure Group Communication: Bridging the Gap between Formal Specification and Network Simulation*. 12th IEEE International Symposium on Pacific Rim Dependable Computing (PRDC'06). December 2006.
- C-85 S. Gutierrez-Nolasco, N. Venkatasubramanian and C. Talcott. *A Semantic Model for Safe Protocol Interaction*. 21st Annual ACM Symposium on Applied Computing (SAC'06). April 2006.
- C-84 Kyoungwoo Lee, Aviral Shrivastava, Ilya Issenin, Nikil Dutt and Nalini Venkatasubramanian. *Mitigating Soft Error Failures for Multimedia Applications by Selective Data Protection*. International Conference on Compilers, Architectures and Synthesis for Embedded Systems (CASES), October 2006
- C-83 Mayur Deshpande, Nalini Venkatasubramanian, Sharad Mehrotra. *Heuristics for Flash-Dissemination in Heterogenous Networks*. IEEE Int'l Conference on High Performance Computing (HiPC). 2006
- C-82 Humeyra Topcu Altintas, Yun Huang and Nalini Venkatasubramanian. "Overload-Driven Mobility-Aware Cache Management in Wireless Environments", The 3rd Annual International Conference on Mobile and Ubiquitous Systems: Networks and Services, ACM MOBIQUITOUS 200.6
- C-81 Dmitri Kalashnikov, Yiming Ma, Sharad Mehrotra, Ramaswamy Hariharan, Nalini Venkatasubramanian. *SAT: Spatial Awareness from Textual Input*, EDBT (Demo), 2006.
- C-80 Daniel Massaguer, Vidhya Balasubramanian, Sharad Mehrotra, Nalini Venkatasubramanian. *Synthetic Humans in Emergency Response Drills*, 2006 AAMAS Conference, Demo Paper, 2006.
- C-79 Daniel Massaguer, Vidhya Balasubramanian, Sharad Mehrotra, Nalini Venkatasubramanian; *Multi-Agent Simulation of Disaster Response*, ATDM Workshop in AAMAS 2006.



- C-78 Vidhya Balasubramanian; Daniel Massaguer; Sharad Mehrotra; Nalini Venkatasubramanian; *DrillSim: A Simulation Framework for Emergency Response Drills*, IEEE ISI 2006.
- C-77 Ravi Chandra Jammalamadaka, Timothy van der Horst, Sharad Mehrotra, Kent Seamons, Nalini Venkatasubramanian. *Delegate: A Proxy Based Architecture for Secure Website Access from an Untrusted Machine*, 22nd Annual Computer Security Applications Conference (ACSAC), December, 2006.
- C-76 Daniel Massaguer, Chien-Liang Fok, Nalini Venkatasubramanian, Gruiua-Catalin Roman, Chenyang Lu. *Exploring Sensor Networks using Mobile Agents*, In Proceedings of AAMAS'06 Hakodate, Hokkaido, Japan, 2006.
- C-75 Mayur Deshpande, Bo Xing, Iosif Lazaridis, Bijit Hore, Nalini Venkatasubramanian, Sharad Mehrotra. *CREW: A Gossip-based Flash-Dissemination System*, IEEE International Conference on Distributed Computing Systems (ICDCS), 2006.
- C-74 Xingbo Yu; Sharad Mehrotra; Nalini Venkatasubramanian; *SURCH: Distributed Aggregation over Wireless Sensor Networks*, 10th Int'l Database Engineering & Applications Symposium, 2006.
- C-73 Liang Cheng, Shivajit Mohapatra, Magda El Zarki, Nalini Venkatasubramanian, Nikil Dutt. *A Backlight Optimization Scheme for Video Playback on Mobile Devices*, IEEE Consumer Communications and Networking Conference, Las Vegas, 2006. **Winner of Best Paper Award.**
- C-72 Bo Xing, Nalini Venkatasubramanian. *Multi-Constraint Dynamic Access Selection in Always Best Connected Networks*, 2<sup>nd</sup> Annual International Conference on Mobile and Ubiquitous Systems, 2005
- C-71 Ravi Chandra Jammalamadaka, Sharad Mehrotra, Nalini Venkatasubramanian. *PVault: A Client Server System Providing Mobile Access to Personal Data*, Workshop on Storage Security and Survivability, ACM CCS 2005.
- C-70 K. Lee, N. Dutt and N. Venkatasubramanian. *An Experimental Study on Energy Consumption of Video Encryption for Mobile Handheld Devices*. Poster Paper, ICME July 2005
- C-69 M. Kim, H. Oh, N. Dutt, A. Nicolau and N. Venkatasubramanian. *Probability Based Power Aware Error Resilient Coding*. First International Workshop on Services and Infrastructures for the Ubiquitous and Mobile Internet (SIUMI'05), held in conjunction with IEEE International Conference on Distributed Computing Systems (ICDCS'05) June 2005, Columbus, Ohio.
- C-68 S. Mohapatra, R. Cornea, H. Oh, K. Lee, M. Kim, N. Dutt, R. Gupta, A. Nicolau, S. Shukla and N. Venkatasubramanian. *A Cross-Layer Approach for Power-Performance Optimization in Distributed Mobile Systems*. Workshop on NSF Next Generation Software Program (NSFNGS'05) in conjunction with IEEE International Parallel and Distributed Processing Symposium (IPDPS'05) April 2005.
- C-67 Y. Huang, S. Mohapatra and N. Venkatasubramanian. *An Energy Efficient Middleware for Supporting Multimedia Services in Mobile Grid Environments*. IEEE ITCC. April 2005.
- C-66 L. Cheng, S. Bossi, S. Mohapatra, M. El Zarki, N. Venkatasubramanian and N. Dutt. *Quality Adapted Backlight Sealing (QABS) for Video Streaming to Mobile Handheld Devices*. IEEE/IEE/LNCS ICN. April 2005.
- C-65 Q. Han, I. Lazaridis, S. Mehrotra and N. Venkatasubramanian. *Sensor Data Collection with Reliability Guarantees*. IEEE PerSeNS (in conjunction with PerCom). March 2005.
- C-64 J. Wickramasuriya, M. Alhazzazi, M.Datt, S. Mehrotra and N. Venkatasubramanian. *Privacy Preserving Video Surveillance*. SPIE International Symposium on Electronic Imaging. 2005.

- C-63 J. Wickramasuriya and N. Venkatasubramanian. *Dynamic Access Control for Ubiquitous Environments*. International Symposium on Distributed Objects and Applications (DOA 2004).
- C-62 S. Mohapatra and N. Venkatasubramanian. *A Game Theoretic Approach for Power Aware Middleware*. ACM/IFIP/USENIX 5th International Middleware Conference. October 2004.
- C-61 V. Balasubramanian and N. Venkatasubramanian. *GURU: A Multimedia Distance-Learning Framework for Users with Disabilities*. Demo. ACM Multimedia. October 2004.
- C-60 J. Wickramasuriya, M. Datt, S. Mehrotra and N. Venkatasubramanian. *Privacy Protecting Data Collection in Media Spaces*. ACM Multimedia. October 2004.
- C-59 S. Gutierrez-Nolasco, N. Venkatasubramanian, M.-O. Stehr and C. Talcott. *Exploring Adaptability of Secure Group Communication using Formal Prototyping Techniques*. Proceedings of the 3rd Workshop on Adaptive and Reflective Middleware (Middleware 2004). October 2004.
- C-58 H. V. Antwerpen, N. Dutt, R. Gupta, S. Mohapatra, C. Periera, N. Venkatasubramanian and R. V. Vignau. *Platforms and Tools for Energy-Efficient Design of Multimedia Systems*. Design Automation and Test in Europe (DATE), March 2004
- C-57 M. Deshpande and N. Venkatasubramanian. *The Different Dimensions of Dynamicity*. The 4th International Conference on Peer-to-Peer Systems. July 2004.
- C-56 S. Mehrotra, C. Butts, D. Kalashnikov, N. Venkatasubramanian, J. Wickramasuriya. *CAMAS: A Citizen Awareness System for Crisis Mitigation*. Demo. ACM SIGMOD. June 2004.
- C-55 V. Balasubramanian, D. Massaguer and N. Venkatasubramanian. *Adapting Multimedia Data for Users with Motor Impairments in GURU*. Poster Paper, IEEE International Conference on Multimedia and Expo (ICME-2004). June 2004.
- C-54 Q. Han, M. Nguyen, S. Irani and N. Venkatasubramanian. *Time-sensitive Computation of Aggregate Function over Distributed Approximate Data*. Proceedings of the 12th IEEE International Workshop on Parallel and Distributed Real-time Systems (WPDRTS). April 2004.
- C-53 S. Mohapatra, C. Bell and N. Venkatasubramanian. *Device Independent Remote Adaptations for Power Optimization using Distributed Middleware*. Communication Networks and Distributed Systems Modeling and Simulation Conference, January 2004.
- C-52 X. Yu, K. Niyogi, S. Mehrotra and N. Venkatasubramanian. *Adaptive Target Tracking in Sensor Networks*. Communication Networks & Distributed Systems Modeling and Simulation Conf., 2004.
- C-51 Qi Han, Sharad Mehrotra and Nalini Venkatasubramanian. *Energy-Efficient Data Collection in Distributed Sensor Environments*, IEEE International Conference on Distributed Computing Systems (ICDCS 2004), March 2004.
- C-50 S. Mehrotra, C. Butts, D. Kalashnikov, N. Venkatasubramanian, R. Rao, G. Chockalingam, R. Eguchi, B. Adams, and C. Huyck. *Project RESCUE: Challenges in Responding to the Unexpected*. IS&T/SPIE International Conference on Internet Imaging, January 2004.
- C-49 Hans Van Antwerpen, N. Dutt, R. Gupta, S. Mehrotra, C. Periera, N. Venkatasubramanian and R.V. Vignau. *Energy-Aware System Design for Wireless Multimedia*, Invited Tutorial Paper, IEEE International Conference on Design Automation and Test Europe (DATE 2004), March 2004.
- C-48 Radu Cornea, Shivajit Mohapatra, Nikil Dutt, Alex Nicolau, Nalini Venkatasubramanian. *Managing Cross-Layer Constraints for Interactive Mobile Multimedia*, IEEE Real-Time Systems Symposium Workshop on Constraint-Aware Embedded Software (CAES 2003), December 2003.

- C-47 Yun Huang and Nalini Venkatasubramanian. *Supporting Mobile Multimedia Services with Intermittently Available Grid Resources*. IEEE International Conference on High Performance Computing 2003 (HiPC 2003), December 2003
- C-46 Qi Han and Nalini Venkatasubramanian. *Addressing Timeliness/Accuracy/Cost Tradeoffs in Information Collection for Dynamic Environments*. IEEE Real-Time Systems Symposium 2003(RTSS 2003), December 2003.
- C-45 Shivajit Mohapatra, Radu Cornea, Nikil Dutt, Alex Nicolau and Nalini Venkatasubramanian. *Integrated Power Management for Video Streaming to Mobile Devices*. ACM Multimedia 2003 – Systems Track (ACM 'MM 2003), November 2003.
- C-44 Radu Cornea, Nikil Dutt, Rajesh Gupta, Shivajit Mohapatra, Alex Nicolau, Cristiano Pereira, Sandeep Shukla, Nalini Venkatasubramanian. *ServiceFORGE: A Software Architecture for Power and Quality Aware Services*. IFIP FME Int'l Workshop on Service Based Software Engineering 2003 (SBSE).
- C-43 Sudeep Pasricha, Shivajit Mohapatra, Manev Luthra, Nikil Dutt and Nalini Venkatasubramanian. *Reducing Backlight Power Consumption for Streaming Video Applications on Mobile Handheld Devices*. ACM/IEEE/IFIP CODES-ISSS 2003 Workshop on Embedded Systems for Real-Time Multimedia (ESTIMedia 2003), October 2003.
- C-42 Shivajit Mohapatra and Nalini Venkatasubramanian. *Proactive Mobility and Energy-Aware Video Streaming to Mobile Handheld Devices*, Fifth IEEE International Conference on Mobile and Wireless Communication Networks (MWCN 2003), October 2003.
- C-41 Radu Cornea, Shivajit Mohapatra et al. *A Model-Based Approach to System Specification for Distributed Real-time and Embedded System*, IEEE RTAS Workshop on Model-Driven Embedded Systems, RTAS 2003, May 2003.
- C-40 Radu Cornea, Shivajit Mohapatra, Nikil Dutt, Alex Nicolau and Nalini Venkatasubramanian. *PARM: Power-Aware Multimedia Streaming in Heterogeneous Multi-User Environments*. IEEE Int'l Workshop on Concurrent Information Processing and Computing (CIPC 2003), July 2003.
- C-39 Alfredo Weitzenfeld, Sebastian Gutierrez-Nolasco and Nalini Venkatasubramanian. *MIRO: An Embedded Distributed Architecture for Biologically Inspired Mobile Robots*, 11th IEEE International Conference on Advanced Robotics (ICAR 2003), June 2003.
- C-38 Alfredo Weitzenfeld, Sebastian Gutierrez-Nolasco and Nalini Venkatasubramanian. *Controlling Mobile Robots with Distributed Neuro-Biological Systems*. 2nd Annual IEEE Symposium on Autonomous Intelligent Networks and Systems (AINS 2003), June 2003.
- C-37 Vidhya Balasubramanian and Nalini Venkatasubramanian. *Adapting a Multimedia Distance Learning Environment for Vision Impairments*, IEEE International Conference on Information Technology: Coding and Computing (ITCC 2003), April 2003.
- C-36 Shivajit Mohapatra and Nalini Venkatasubramanian. *PARM: Power-Aware Reconfigurable Middleware*, IEEE Int'l Conference on Distributed Computing Systems (ICDCS), May 2003.
- C-35 Jehan Wickramasuriya and Nalini Venkatasubramanian. *A Directory Based Approach to Distributed Systems Middleware*, Eighth IEEE International Workshop on Object-oriented Real-time Dependable Systems (WORDS 2003), January 2003.
- C-34 Xingbo Yu, Koushik Niyogi, Sharad Mehrotra and Nalini Venkatasubramanian. *Adaptive Target Tracking in Distributed Sensor Networks*, Short Paper, ACM/IFIP Middleware 2003.

- C-33 Vidhya Balasubramanian and Nalini Venkatasubramanian. *Server Transcoding of Multimedia Information for Cross Disability Access*, ACM/SPIE Conference on Multimedia Computing and Networking, MMCN 2003, January 2003.
- C-32 Yun Huang and Nalini Venkatasubramanian. *Data Placement in Intermittently Available Environments*, IEEE Int'l Conference on High Performance Computing (HiPC), December 2002.
- C-31 Yun Huang and Nalini Venkatasubramanian. *Resource Discovery in Intermittently Available Environments*, IEEE Int'l Conference on High Performance Distributed Computing (HPDC), 2002.
- C-30 Sebastian Gutierrez-Nolasco and Nalini Venkatasubramanian. *Reachability Snapshots in the Presence of Failures: An Exercise in Protocol-Service Composition*, Workshop on Dependable Middleware-Based Systems, IEEE International Conference on Dependable Systems and Networks, June 2002.
- C-29 Qi Han and Nalini Venkatasubramanian. *A Cost Driven Approach to Information Collection for Mobile Multimedia Environments*. Fourth IEEE International Conference on Mobile and Wireless Communications Networks, MWCN 2002, September 2002.
- C-28 Jehan Wickramasuriya and Nalini Venkatasubramanian. *A Middleware Approach to Access Control for Mobile Concurrent Objects*. Short Paper. International Symposium on Distributed Objects and Applications (DOA 2002), October 2002.
- C-27 Magda El Zarki, Sharad Mehrotra, Gene Tsudik and Nalini Venkatasubramanian. *Security Issues in a Future Vehicular Network*, EuroWireless 2002. February 2002.
- C-26 Sebastian Gutierrez-Nolasco and Nalini Venkatasubramanian. *A Reflective Middleware Framework for Communication in Dynamic Environments*. International Symposium on Distributed Objects and Applications (DOA 2002), October 2002.
- C-25 Shivajit Mohapatra and Nalini Venkatasubramanian. *A Distributed Adaptive Scheduler for QoS Support in Compose|Q*, Seventh IEEE International Workshop on Object-oriented Real-time Dependable Systems (WORDS 2002). January 2002.
- C-24 Sebastian Gutierrez-Nolasco and Nalini Venkatasubramanian. *Design Patterns for Safe Reflective Middleware*, OOPSLA 2001 Workshop on Patterns and Pattern Languages for OO Distributed Real-time and Embedded Systems, ACM Conference on Object Oriented Programming Languages and Systems 2001 (OOPSLA 2001), October 2001.
- C-23 Qi Han & Nalini Venkatasubramanian. *AutoSeC: An integrated Middleware Framework for Dynamic Service Brokering*, Short Paper, ACM International Conference on Middleware (Middleware 2001).
- C-22 Sandy Irani and Nalini Venkatasubramanian. *Semi-continuous Transmission in Cluster-Based Video Servers*, IEEE International Conference on Cluster Computing 2001 (Cluster'2001), October 2001.
- C-21 Nalini Venkatasubramanian, Carolyn Talcott, Gul Agha. *A Formal Model for Reasoning about Adaptive QoS-Enabled Middleware*", Formal Methods Europe (FME 2001), Humboldt-Universität zu Berlin, March 2001.
- C-20 Zhenghua Fu, Nalini Venkatasubramanian. *Directory Based Composite Routing and Scheduling Policies for Dynamic Multimedia Environments*, Proceedings of the IEEE International Parallel and Distributed Processing Symposium 2001 (IPDPS 2001), April 2001.

- C-19 Nalini Venkatasubramanian, Mayur Deshpande, Shivajit Mohapatra, Sebastian Gutierrez-Nolasco and Jehan Wickramasuriya. *Design & Implementation of a Composable Reflective Middleware Framework*, IEEE Intl Conference on Distributed Computer Systems (ICDCS-21), April 2001.
- C-18 Zhenghua Fu and Nalini Venkatasubramanian. *Adaptive Parameter Collection in Dynamic Distributed Environments*, IEEE Intl Conference on Distributed Computer Systems (ICDCS-21), April 2001.
- C-17 Xiaoping Wei and Nalini Venkatasubramanian. *Predictive Fault Tolerant Placement in Distributed Video Servers*, IEEE Intl. Conference on Multimedia and Exposition 2001 (ICME 2001), August 2001.
- C-16 Sebastian Gutierrez-Nolasco and Nalini Venkatasubramanian. *A Composable Reflective Communication Framework*, Proceedings of the IFIP/ACM Workshop on Reflective Middleware (RM2000), April 2000.
- C-15 Nalini Venkatasubramanian and Carolyn Talcott. *A Reflective Framework For Providing Safe QoS-enabled Customizable Middleware*, Proceedings of the IFIP/ACM Workshop on Reflective Middleware (RM2000), April 2000.
- C-14 Xiaoping Wei and Nalini Venkatasubramanian. *Middleware Services for Fault Tolerant Multimedia Applications* (Poster Paper), Middleware 2000 - IFIP/ACM International Conference on Distributed Systems Platforms and Open Distributed Processing, April 2000.
- C-13 Nalini Venkatasubramanian, Gul Agha and Carolyn Talcott, *A MetaObject Framework for QoS-Based Distributed Resource Management*, Third International Symposium on Computing in Object-Oriented Parallel Environments (ISCOPE'99), December 1999.
- C-12 Zhenghua Fu and Nalini Venkatasubramanian. *Combined Path and Server Selection in Dynamic Multimedia Environment*, Proceedings of ACM Multimedia '99, November 1999.
- C-11 Nalini Venkatasubramanian and Carolyn Talcott. *A Semantic Framework for Specifying Composable Distributed Resource Management Activities*, 14th IFIP International Workshop on Algebraic Development Techniques, (WADT '99), September 1999.
- C-10 Nalini Venkatasubramanian. *ComPOSE|Q - A QoS-enabled Customizable Middleware Framework for Distributed Computing*, Distributed Middleware Workshop, Proceedings of the IEEE Intl. Conference on Distributed Computing Systems (ICDCS '99), June 1999.
- C-9 Nalini Venkatasubramanian, Gul Agha and Carolyn Talcott. *Composable QoS Based Distributed Resource Management*, Workshop on Compositional Software Architectures, January 1998.
- C-8 Nalini Venkatasubramanian and Klara Nahrstedt, *An Integrated Metric for Video QoS*, Proceedings of ACM Multimedia '97, Seattle, November 1997.
- C-7 Nalini Venkatasubramanian and Gul Agha, *An Actor-Based Framework for Managing Multimedia QoS*, Proceedings of Multimedia Information Systems Conference 1997(MISC'97), September 1997.
- C-6 Shangping Ren, Nalini Venkatasubramanian and Gul Agha, *Formalizing QoS Constraints Using Actors*, Proceedings of Second IFIP International Conference on Formal Methods for Open Object Based Distributed Systems, FMOODS'97, September 1997.
- C-5 Nalini Venkatasubramanian and Srinivas Ramanathan. *Load Management for Distributed Video Servers*, Proceedings of the IEEE Intl. Conf. on Distributed Computing Systems (ICDCS) 1997.

- C-4 Nalini Venkatasubramanian and Carolyn Talcott. *MetaArchitectures for Resource Management in Open Distributed Systems*, Proceedings of the ACM Symposium on Principles of Distributed Computing, PODC '95, August 1995.
- C-3 Pankaj Garg, Allan Shepherd, Svend Frolund and Nalini Venkatasubramanian. *A Model Based Approach for Distributed Applications Stability Engineering*. California Symposium on Software Engineering, 1994. Also HP Labs Technical Report.
- C-2 Nalini Venkatasubramanian and Carolyn Talcott. *A Meta Architecture for Scalable Distributed Resource Management"*, Proceedings of the 26th Hawaiian International Conference on System Sciences, January 1993.
- C-1 Nalini Venkatasubramanian, Gul Agha and Carolyn Talcott. *Scalable Distributed Garbage Collection for Systems of Active Objects*, Proceedings of the IFIP International Workshop on Memory Management, September 1992. Lecture Notes in Computer Science, Volume 637, Springer-Verlag.

### **Software Systems/Releases:**

**STEP:** A Planning Tool for Instrumenting Water Networks

**SWADE:** A Data-Exchange and Analytics Sandbox for Integrated Water Systems

**CAREDEX:** A Secure Data-Exchange Platform for Disaster Resilience in Older Adults

**SmartSPEC:** A Simulation Tool for generating Realistic Synthetic Datasets for Smartspaces

**SmartParcels:** A What-If Analysis and Planning Tool for IoT-Enabled Smart Communities

**T-Cove:** An Covid and exposure tracing System based on Cleaning Wi-Fi Events on Organizational Premises

**FireDEX:** An IoT Based Edge Data Exchange System for Prioritized IoT Data Delivery for Smart Firefighting applications in smartspaces.

**TIPPERS:** Testbed for IoT-based Privacy-Preserving PERvasive Spaces: a robust experimental smart building testbed for real-world deployment, testing, and evaluation of a variety of privacy technologies in Internet of Things scenarios.

**BAD:** A Big Active Data Based Enriched Publish Subscribe System

**EnviroSCALE:** Resilient IoT platform for environmental monitoring applications in developing nations

**AquaSCALE:** A cyber-physical-human middleware for gathering, analyzing and adapting operations of increasingly failure-prone community water services.

**SCALE:** An end-to-end system to enable resilient cloud-based IoT platform for home and personal safety with multiple inexpensive devices and networks.

**Offline FaceBook:** A system to enable social media content prefetching for mobile clients whose goal is to prefetch content at the mobile device or a nearby broker when connectivity is cheap and good.

**CROWDMAC:** A mobile app that facilitates a marketplace for Internet Access Sharing across mobile devices.

**MAPCLOUD:** A system for exploiting local and public cloud computing resources to improve mobile applications and alleviate limitations on mobile devices and networks.

**MINA:** A middleware framework for multinet network management that captures and efficiently maintains the state of heterogeneous communication networks (wired, cellular, WiFi, MANETs, Zigbee, mesh... ) in pervasive environments.

**UCI311:** A system for robust emergency monitoring that obtains and merges information from multiple sources including human input (via telephone, email), social media and sensors.

**OpsTalk:** A Speech based mobile situational awareness platform for command and control operations.

**SAFIRE:** A system for generating situational awareness for firefighter safety from multiple mobile and in-situ sensors targeted at delivering actionable information to a incident commander through a Fire Incident Command Board (FICB).

**CrisisAlert:** An automated system to disseminate customized information to schools and other organizations in case of disasters. <http://www.ics.uci.edu/~projects/dissemination/artifacts.htm>,  
<http://www.disasterportal.org:8280/crisis/>

**RAPID:** A P2P framework for flash distribution (over the Internet) of heterogeneous data to a large number of recipients in as short a time period as possible (Flash Dissemination) using an underlying minimum-state gossip-based protocol (CREW). <http://www.ics.uci.edu/~projects/dissemination/rapid.htm>

**Flashback:** System for scalably handling large unexpected traffic spikes on web-sites where clients (browsers) create a dynamic, self-scaling Peer-to-Peer (P2P) web-server that grows and shrinks according to the load. <http://flashback.calit2.uci.edu/>

**Disaster Portal:** An Emergency Information Portal (EIP) that includes a web-accessible integrated dashboard of local disaster and associated relief information, hotlinks for citizens and also an online donation management system. <http://www.disasterportal.org/ProjectWebsites/>, <http://www.disasterportal.org/Ontario/home.htm>

**pVault:** A password management service that prevents some of the prevalent online attacks on passwords. <http://www.itr-rescue.org/pVault/>

**gVault:** An application level cryptographic network file system built on top of the storage offered by Gmail(Web based email) service. <http://gvault.ics.uci.edu>

**dataVault:** A system for Web users to securely access data from any machine connected to the Internet and selectively share data with trusted peers. <http://www.ics.uci.edu/~rjammala/dataVault>.

**SATWARE:** SATware is a multimodal sensor data stream querying, analysis, and transformation middleware for sentient systems. <http://www.ics.uci.edu/~projects/SATware/>

**DrillSIM:** A multi-agent activity simulator for crisis response that models response activities and information flow at both the macro and micro level. <http://www.ics.uci.edu/~project/drillsim/>

**MetaSIM:** A comprehensive platform for plug-and-play operation of simulation and modeling tools for emergency managers and first responders.

**Dynamo:** A middleware framework (Linux based) for cross-layer adaptation of power-saving mechanisms at different layers – device (memory, backlight), OS, network, middleware and application for improved QoS and battery lifetime on low-power mobile devices. <http://www.ics.uci.edu/~dsm/dyn/release/>

**MAPGRID:** A middleware framework built using Globus that exploits grid computing resources to support applications on mobile clients. <http://mapgrid.ics.uci.edu/SystemPrototype.htm>

**GURU:** An MPEG-4 based distance-learning environment for users with visual, auditory and motor disabilities.

**CompOSE|Q:** CompOSE|Q is a customizable distributed systems middleware infrastructure that allows safe integration and concurrent execution of resource management mechanisms for services such mobility, load balancing, fault tolerance and end-to-end QoS management. <http://www.ics.uci.edu/~dsm/compose/>

### **Industry Experience:**

*Multimedia Workload Characterization, Broadband Information Systems Lab, HP Labs.*

Developed video workload models and QoS metrics obtained by empirical studies of video-on-demand systems.  
Investigated economic models for interactive QoS for multimedia systems.

*Distributed Multimedia Servers, Broadband Information Systems Lab, HP Labs.*

Involved in design and implementation of distributed video servers, resource management (load-balancing, data placement, request assignment, real-time scheduling, high availability) and broadband networking for distributed multimedia and web servers.

*Digital Choreography and Virtual Environments, HP Labs.*

Recipient of a Grass Roots Basic Research Grant to pursue an investigation in digital dance and choreography.  
Prototype interactive animation systems from were extended to support digital choreography and conduct studies on motion manipulation in distributed environments.

*Object Oriented Database Management, Cooperative Computing Systems Lab, HP.*

Involved in the design and implementation of memory management schemes, interoperability facilities, authorization mechanisms, performance benchmarks and for a commercial object oriented database - OpenODB/Oadapter.

*Compilers for Parallel Architectures, IBM T.J. Watson Research Center.* Worked with the Hybrid Dataflow Architecture Group on compilation techniques for parallel machines developing abstract intermediate forms, representing and executing sequential and dataflow computation on a custom high performance architecture.