

Nima Nikzad

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Education

Ph.D., Computer Science and Engineering

University of California, San Diego, La Jolla CA

Advisor: William G. Griswold

Research Projects:

- CitiSense: A Real-Time Participatory Sensing System for Air Quality
- APE: Annotated Programming for Energy-efficiency

Research interests: Energy-efficient mobile systems, tools for facilitating the development of efficient mobile applications, health and environmental monitoring.

2009 -
Present

M.S., Computer Science and Engineering

University of California, San Diego, La Jolla CA

Advisor: William G. Griswold

Research exam topic: Energy-Efficient Health and Context Monitoring

2009 -
2012

B.S., Computer Science

University of California, Los Angeles, Los Angeles CA

CENS Intel Scholar

President, ACM Student Chapter

Dean's Honor List

Selected projects: Wireless heart rate monitoring and tracking, 3D game parallelization and optimization, sensor node localization through vision techniques, GNU sort optimization and parallelization

2005 -
2009

Professional Experience

Graduate Student Researcher, University of California, San Diego

- CitiSense – Worked with an interdisciplinary team to develop the CitiSense air pollution monitoring system. Contributed to the development of the smartphone application, back-end server infrastructure, and user-carried sensor device.
- APE – Developed the APE annotation language and middleware service, which simplifies the development of energy-management policies in mobile phone applications by abstracting away low-level hardware-monitoring details and allowing a developer to focus on high-level policy decisions.

2009 -
Present

Research Intern, Nokia Research Center, Palo Alto

- Worked with the Context, Content, and Community (C3) team on an end-to-end system for collection, storage, retrieval, and sharing of mobile and social data.
- Developed an Android client for the C3 system, responsible for inferring and collecting contextual information about the user.

2011

Software Engineering Intern, Cisco Systems

- Intern in the Voice Technology Group (VTG), developing software for a line of Cisco Wireless IP Phones.
- Implement and test Java (J2ME) Virtual Machine on mobile phone.

2008

Network Programming Intern, Activision

- Worked on multiplayer features for the Quantum of Solace video game.
- Experience working with a team on a large code base. Tools include Visual Studio and Perforce.
- C development for PC and Xbox 360 platforms.
- Contributed to the design and implementation of core game features including weapon systems and interface design.

2007

CENS Intel Scholar, *Center for Embedded Networked Sensing, UCLA*

2006 -
2007

- Worked on vision-based localization techniques on wireless embedded devices.
 - Wrote modules in C for the in-house developed operating system that controlled camera and wireless communication between devices.
 - Contributed to writing of paper submission and technical report.
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Departmental & Community Service

- Graduate Mentor, Jacobs Undergraduate Mentoring Program, 2012-2013
 - Student Representative, UCSD CSE Department Committee on Graduate Affairs, 2011-2013
 - Department Representative, UCSD Graduate Student Association, 2011-2013
 - Board Member, UCLA CS Department Undergraduate Program Advisory Board, 2006-Present
 - President, ACM Student Chapter at UCLA, 2006-2009
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Awards

- Best Paper Award, Wireless Health 2012 Conference
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Teaching Experience

Teaching Assistant, *University of California, San Diego*

- Winter 2012 – CSE 237A: Introduction to Embedded Systems
 - TA Evaluation: 4.556 (out of 5.0)
 - Developed course material (projects, homework assignments, and exams)
 - Fall 2011 – CSE 123: Computer Networks
 - TA Evaluation: 4.358 (out of 5.0)
 - Winter 2011 – CSE 237A: Introduction to Embedded Systems
 - TA Evaluation: 4.551 (out of 5.0)
 - Developed course material (projects, homework assignments, and exams)
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Students Supervised and Mentored

Masters Projects Advised, *University of California, San Diego*

- Kavita Bhagavatula, “Indoor Context Recognition on Mobile Devices”, expected completion March 2014.
 - Yilun Zheng, “Validating a Power Consumption Model for Modern Smartphones”, December 2013.
 - Han Sun, “Retargeting the CitiSense Mobile Application as a Desktop/Server Application”, June 2013.
 - Cristhian Rendon Castro, “A Power Consumption Tracking System for Android Devices”, June 2012.
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Publications

Conference Proceedings

- **Nima Nikzad**, Octav Chipara, William G. Griswold. "APE: An Annotation Language and Middleware for Energy-Efficient Mobile Application Development". International Conference on Software Engineering (ICSE) 2014. *Submitted and under review.*
- **Nima Nikzad**, Nakul Verma, Celal Ziftci, Elizabeth Bales, Nichole Quick, Piero Zappi, Kevin Patrick, Sanjoy Dasgupta, Ingolf Krueger, Tajana Simunic Rosing, William G. Griswold. "CitiSense: Improving Geospatial Environmental Assessment of Air Quality Using a Wireless Personal Exposure Monitoring System". Wireless Health 2012. **Best Paper Award.**
- **Nima Nikzad**, Jinseok Yang, Piero Zappi, Tajana Simunic Rosing, Dilip Krishnaswamy. "Model-driven Adaptive Wireless Sensing for Environmental Healthcare Feedback Systems". IEEE International Conference on Communications (ICC) 2012.
- Elizabeth Bales, **Nima Nikzad**, Nichole Quick, Celal Ziftci, Kevin Patrick and William Griswold. "Citisense: Mobile Air Quality Sensing for Individuals and Communities", Short paper PervasiveHealth 2012.
- Stephen J Olivas, Michal Šorel, **Nima Nikzad**, Joseph Ford, “Platform Motion Blur Image Restoration System,” Computational Optical Sensing and Imaging (COSI), OSA, CTu2B3 (2012).

Book Chapters

- **Nima Nikzad**, Priti Aghera, Piero Zappi, Tajana Simunic Rosing, "Energy Management in Heterogeneous Wireless Health Care Networks", in Energy-Efficient Distributed Computing Systems, Edited by Albert Y. Zomaya, Young Choon Lee, John Wiley & Sons, Inc, 2012.

Technical Reports

- **Nima Nikzad**, Celal Ziftci, Piero Zappi, Nichole Quick, Priti Aghera, Nakul Verma, Barry Demchak, Kevin Patrick, Hovav Shacham, Tajana S Rosing, Ingolf Krueger, William G Griswold, Sanjoy Dasgupta, "CitiSense - Adaptive Services for Community-Driven Behavioral and Environmental Monitoring to Induce Change", Technical report CS2011-0961, 2011.
- Jeff Mascia, Jou-Yu Lee, **Nima Nikzad**, Mohammad Rahimi, Mani B Srivastava, "Actuation-Assisted External Calibration of Distributed Camera Sensor Networks," June 2007. (TR-UCLA-NESL-200707-01)

Demos

- Celal Ziftci, **Nima Nikzad**, Nakul Verma, Piero Zappi, Elizabeth Bales, Ingolf Krueger and William Griswold, "Citisense: Mobile Air Quality Sensing for Individuals and Communities", accepted to OOPSLA 2012 Demo Session, 2012.