

Jorge Ortiz
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EDUCATION

University of California, Berkeley

Advisor: David Culler

PhD Candidate, expected graduation: Spring 2012

Relevant Courses: Advanced Systems Seminar I & II, Graduate Networking, Sensor Networks Seminar, Combinatorial Algorithms, Parallel Computation Algorithms, Statistical Learning Theory.

Massachusetts Institute of Technology, 2003

Bachelor of Science Degree in Computer Science and Engineering

**RESEARCH
INTERESTS**

Distributed systems, wireless and sensor networks, overlay networks, internet architecture, experimental design, measurement, energy-efficient computing systems.

Conference, Workshop, and Technical Report Publications

1. David Culler, Seth Sanders, Sara Alspaugh, Yanpei Chen, Stephen Dawson-Haggerty, Prabal Dutta, Mike He, Xiaofan Jiang, Laura Keys, Andrew Krioukov, Ken Lutz, *Jorge Ortiz*, Prashanth Mohan, Evan Reutzel, Jay Taneja, Jeff Hsu, and Sushant Shankar. **An Information-Centric Energy Infrastructure: The Berkeley View.** To appear in the Journal of Sustainable Computing.
2. Stephen Dawson-Haggerty, Xiaofan Jiang, Gilman Tolle, *Jorge Ortiz* and David Culler. **sMAP – A Simple Measurement and Actuation Profile for Physical Information.** 8th ACM Conference on Embedded Networked Sensor Systems (Sensys 2010).
3. Jeff Hsu, Prashanth Mohan, Xiaofan Jiang, *Jorge Ortiz*, Sushant Shankar, Stephen Dawson-Haggerty, and David Culler. **HBCI: Human-Building-Computer Interaction.** 2nd ACM Workshop on Embedded Sensing for Energy-Efficient Buildings (BuildSys 2010).
4. *Jorge Ortiz* and David Culler. **A System for Managing Physical Data in Buildings.** Technical Report No. EECS-2010-128, EECS Department, University of California, Berkeley 2010.
5. Stephen Dawson-Haggerty, *Jorge Ortiz*, Xiaofan Jiang, Jeff Hsu, Sushant Shankar, and David Culler. **Enabling Green Building Applications.** 6th Workshop on Hot Topics in Embedded Networked Sensors (HotEmnets 2010).
6. *Jorge Ortiz* and David Culler. **Multichannel Reliability Assessment in Real World WSNs.** International Conference on Information Processing in Sensor Networks: Special Track on Platform Tools and Design Methods for Network Embedded Sensors 2010 (IPSN)
7. Stephen Dawson-Haggerty, *Jorge Ortiz*, Xiaofan Jiang and David E. Culler, **The Effect of Link Churn on Wireless Routing.** Technical Report No. UCB/EECS-2008-109, EECS Department, University of California, Berkeley, 2008.

8. *Jorge Ortiz*, Chris R. Baker, Daekyeong Moon, Rodrigo Fonseca, and Ion Stoica. **Beacon Location Service: A Location Service for Point-to-Point Routing in Wireless Sensor Networks**. IEEE International Conference in Information Processing in Sensor Networks: Special Track on Platform Tools and Design Methods for Network Embedded Sensors 2007 (IPSN).
9. Xiaofan Jiang, Jay Taneja, *Jorge Ortiz*, Arsalan Tavakoli, Prabal Dutta, Jaein Jeong, David Culler, Philip Levis, and Scott Shenker. **An Architecture for Energy Management in Wireless Sensor Networks**. To Appear in the International Workshop on Wireless Sensor Network Architecture 2007.
10. Arsalan Tavakoli, Prabal Dutta, Jaein Jeong, Sukun Kim, *Jorge Ortiz*, David Culler, Philip Levis, and Scott Shenker. **A Modular SensorNet Architecture: Past, Present, and Future Directions**. To Appear in the International Workshop on Wireless Sensor Network Architecture 2007.
11. Ang-Chih and *Jorge Ortiz*. **Connection Oriented Routing Environment (CORE): A Generalized Device Interconnect**. M.I.T. Student Oxygen Workshop SOW 2002.

Poster Publications

1. Jorge Ortiz and David Culler. **Exploring Diversity: Evaluating the Cost of Frequency Diversity in Communication and Routing**. In the Proceedings of the Sixth ACM Conference on Embedded Networked Sensor Systems (Sensys '08), November 2008. **Best Poster Award Winner**.

Talks and Lectures

1. "Beacon Location Service", IPSN 2007. Massachusetts Institute of Technology, Cambridge, MA.
2. "The Effect of Link Churn on Wireless Routing", Networking Seminar, Distributed Network Analysis Lab, Columbia University, Computer Science Department. May 2008.
3. "The Effect of Link Churn on Wireless Routing", Networks and Distributed System Group Lunch, Li/Subramanian Research Group. New York University, Computer Science Department. May 2008.
4. "Wireless Communication Lecture". Invited class lecture, Introduction to Communication Networks, UC Berkeley. Fall 2007.

Teaching, Service, and Awards

1. Graduate Teaching Assistant, Introduction to Communication Networks, Fall 2007
2. UC Berkeley Computer Science Graduate Student Association, Faculty Candidate Evaluation Committee President 2009-2010.
3. NSF Graduate Fellowship Honorable Mention 2008
4. Ford Fellowship Honorable Mention 2009

WORK EXPERIENCE

Oracle Corporation

Enterprise Planning and Budgeting - Rob LeVine, Manager

Assisted in creating, debugging, and maintaining several features in Oracle Enterprise Planning and Budgeting (EPB) software suite. Worked on multiple features in the product, including the setup of PL/SQL packages and schemas, as well as the interfaces to the Java-based UI (built using Oracle's OAFramework API).

Burlington, MA

09/03-06/07

Charles River Analytics

Dr. Karen Harper

Used genetic algorithms for optimizing flight paths under various weather

Cambridge, MA

06/03-09/03

conditions. Re-designed flight-path optimization system (previously in C) into Java. Used RMI for distributed -component architecture for offloading computation across multiple machines.

International Business Machines T.J. Watson Research Center
Collaborative User Experience Group (CUE) – Dr. Li-Te Cheng

Cambridge, MA
06/06-02/07

CUE researches interfaces that manage email more effectively. One such domain is the mobile device space. I helped build a full functional software suite. I designed a front end in flash and I wrote the backend in C++. They communicate with each other through sockets with well-defined XML interface.

Merrill Lynch
Technology Infrastructure Services- Network Services Group (TIS-NS)
Corporate and Institutional Client Group Desktop Engineering (CDE)

New York, NY
05/01 – 08/01
06/00 – 08/00

Worked on several internal websites for TIS-NS and set up SQL and Access databases. Also worked on server partitioning research, whereby I evaluated to benefits of using the ES7000 32-way servers. Designed and wrote CDE web site. The site included flash and backend scripted components. Also designed and wrote a beta version of the CICG Global Packaging System.

MIT Media Laboratory- Personal Information Architecture Group;
Professor Michael Hawley

Cambridge, MA
01/00 – 05/00

Designed and wrote software suite to retrieve sensor metadata stored in log files and merge the information into a JPEG image header.

SKILLS

- Competent in C, C++, NesC, TinyOS, Perl, Java, Javascript, Scheme/LISP
- Experience with IEEE 802.11, 802.15.4, Berkeley Smote/Omega Testbed, Micaz/Telos Mote technology, Berkeley Roulette testbed with Soekris nodes
- Fluent in Spanish

References Available Upon Request