Jorge Ortiz, Ph.D.

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Education

- **University of California, Berkeley** — Berkeley, CA
  Doctor of Philosophy in Computer Science; — *May. 2010 – Dec. 2013*
  - Dissertation: A Platform Architecture for Sensor Data Processing and Verification in Buildings
- **University of California, Berkeley** — Berkeley, CA
  Masters of Science in Computer Science; — *Aug. 2007 – May 2010*
  - Thesis: Multichannel Reliability Assessment in Real World WSNs
  - Relevant Courses: Advanced Systems Seminar I & II, Graduate Networking, Sensor Networks Seminar, Combinatorial Algorithms, Parallel Computation Algorithms, Statistical Learning Theory, Practical Machine Learning.
- **Massachusetts Institute of Technology** — Cambridge, MA
  Bachelors of Science in Computer Science and Engineering; — *Aug. 1999 – May 2003*
  - Thesis: Connection Oriented Routing Environment (CORE): A Generalized Device Interconnect

Experience

- **IBM Research** — Yorktown Heights, NY
  Research Staff Member — *Dec. 2013 – Present*
  - Research work on a variety of topics related to distributed systems, mobile sensing, cloud-based middleware architectures, and machine learning.
- **Spire** — San Francisco, CA
  Senior Software Engineer — *Jan. 2013 – Sept. 2013*
  - Designed and wrote communication kernel for arduino-based, nano satellites.
- **Oracle Corporation** — Burlington, MA
  Software Engineer — *Sept. 2003 – Feb. 2007*
  - Assisted in designing, debugging, and maintaining several features in Oracle Enterprise Planning and Budgeting (EPB) software suite; include, but not limited to the setup of PL/SQL packages, schemas, and interfaces to the Javabased UI.

Skills

Proficient in: Java, Python, C

Experience/Familiar with: C++, Javascript, Perl, NesC, TinyOS, IEEE 802.11, 802.15.4, Android development

Fluent in: Spanish

Internships

- **Charles River Analytics** — Cambridge, MA
  Research Intern — *Jun. 2003 – Sept. 2003*
  - Designed genetic algorithms for optimizing flight paths under various weather conditions. Tested algorithms in a cluster. Wrote cluster management components of simulator.
- **IBM Research** — Cambridge, MA
  Research Intern — *May 2002 – Aug. 2002*
  - Designed backend of prototype mobile email client. Designed usability experiments and collected data about fundamental components in the design.
- **Merrill Lynch** — New York, NY
  Summer Analyst — *May – Aug. 2000/2001*

– Design and wrote internal websites for Technology Infrastructure Services- Network Services Group (TIS-NS) the Corporate and Institutional Client Group Desktop Engineering (CDE).

Select Publications

[1] Stephen Dawson-Haggerty et al. "Enabling Green Building Applications". In: *Proceedings of the 6th Workshop on Hot Topics in Embedded Networked Sensors*. HotEmNets '10. Killarney, Ireland: ACM, 2010, 4:1–4:5. ISBN: 978-1-4503-0265-4. DOI: 10.1145/1978642.1978648. URL: http://doi.acm.org/10.1145/1978642.1978648.

[2] Stephen Dawson-Haggerty et al. "sMAP: A Simple Measurement and Actuation Profile for Physical Information". In: *Proceedings of the 8th ACM Conference on Embedded Networked Sensor Systems*. SenSys '10. Zürich, Switzerland: ACM, 2010, pp. 197–210. ISBN: 978-1-4503-0344-6. DOI: 10.1145/1869983.1870003. URL: http://doi.acm.org/10.1145/1869983.1870003.

[3] Stephen Dawson-Haggerty et al. *The Effect of Link Churn on Wireless Routing*. 2008.

[4] Romain Fontugne et al. "Strip, Bind, and Search: A Method for Identifying Abnormal Energy Consumption in Buildings". In: *Proceedings of the 12th International Conference on Information Processing in Sensor Networks*. IPSN '13. Philadelphia, Pennsylvania, USA: ACM, 2013, pp. 129–140. ISBN: 978-1-4503-1959-1. DOI: 10.1145/2461381.2461399. URL: http://doi.acm.org/10.1145/2461381.2461399.

[5] Dezhi Hong et al. "Towards Automatic Spatial Verification of Sensor Placement in Buildings". In: *Proceedings of the 5th ACM Workshop on Embedded Systems For Energy-Efficient Buildings*. BuildSys'13. Roma, Italy: ACM, 2013, 13:1–13:8. ISBN: 978-1-4503-2431-1. DOI: 10.1145/2528282.2528302. URL: http://doi.acm.org/10.1145/2528282.2528302.

[6] Jeff Hsu et al. "HBCI: Human-building-computer Interaction". In: *Proceedings of the 2Nd ACM Workshop on Embedded Sensing Systems for Energy-Efficiency in Building*. BuildSys '10. Zurich, Switzerland: ACM, 2010, pp. 55–60. ISBN: 978-1-4503-0458-0. DOI: 10.1145/1878431.1878444. URL: http://doi.acm.org/10.1145/1878431.1878444.

[7] Chien-Chin Huang et al. "Spartan: A Distributed Array Framework with Smart Tiling". In: *2015 USENIX Annual Technical Conference (USENIX ATC 15)*. Santa Clara, CA: USENIX Association, July 2015, pp. 1–15. ISBN: 978-1-931971-225. URL: https://www.usenix.org/conference/atc15/technical-session/presentation/huang-chien-chin.

[8] Xiaofan Jiang et al. "An Architecture for Energy Management in Wireless Sensor Networks". In: *SIGBED Rev.* 4.3 (July 2007), pp. 31–36. ISSN: 1551-3688. DOI: 10.1145/1317103.1317109. URL: http://doi.acm.org/10.1145/1317103.1317109.

[9] S. Lanzisera et al. "Wireless electricity metering of miscellaneous and electronic devices in buildings". In: *Future of Instrumentation International Workshop (FIIW), 2011*. 2011, pp. 16–19. DOI: 10.1109/FIIW.2011.6476843.

[10] J. Ortiz et al. "Beacon Location Service: A Location Service for Point-to-Point Routing in Wireless Sensor Networks". In: *Information Processing in Sensor Networks, 2007. IPSN 2007. 6th International Symposium on*. 2007, pp. 166–175. DOI: 10.1109/IPSN.2007.4379676.

[11] Jorge Ortiz and David Culler. "Multichannel Reliability Assessment in Real World WSNs". In: *Proceedings of the 9th ACM/IEEE International Conference on Information Processing in Sensor Networks*. IPSN '10. Stockholm, Sweden: ACM, 2010, pp. 162–173. ISBN: 978-1-60558-988-6. DOI: 10.1145/1791212.1791233. URL: http://doi.acm.org/10.1145/1791212.1791233.

[12] Jorge Ortiz et al. "Towards Real-time, Fine-grained Energy Analytics in Buildings Through Mobile Phones". In: *Proceedings of the Fourth ACM Workshop on Embedded Sensing Systems for Energy-Efficiency in Buildings*. BuildSys '12. Toronto, Ontario, Canada: ACM, 2012, pp. 42–44. ISBN: 978-1-4503-1170-0. DOI: 10.1145/2422531.2422540. URL: http://doi.acm.org/10.1145/2422531.2422540.