

## JAGANNATHAN VENKATESH

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## CURRENT RESEARCH

- Energy efficiency, automation, and validation of renewable-energy systems and smart grids
- Power- and context-aware computing in embedded and mobile systems

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## PROFESSIONAL EXPERIENCE

### PhD Engineering Intern

2011, 2012, 2013

*Google – Video Ads*

- Developed a testing framework for video ads, decoupling testing between dependent teams.

*Google – Focus backend*

- Developed a tool to search, analyze and debug Google's social backend data
- Provided granular data access, extensible to common debugging scenarios, while preserving data access permissions

*Google – Xbid*

- Web frontend development on Java and Google Web Toolkit codebases, including new extensions to GWT
- Emphasis on designing UIs that are intuitive to users and reusable by developers.

### Software Development Engineer

2008-2010

*Microsoft – Core Operating Systems Division (Windows)*

- Maintain the multi-language toolset that builds and packages past, present, and future OS versions.
- Development, testing, release of high-quality updates and features with fast turnaround time.
- Vista SP2 – Windows 7 RTM

### Undergraduate Researcher

2007-2008

*University of Virginia*

- Performed initial research to identify the benefits and problems of an N-Variant System
- Rewrote Linux kernel to address non-determinism caused by threading and signals
- Overarching goal was to create a graceful-recovery application framework that is invulnerable to attacks

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## EDUCATION

**University of California, San Diego – Department of Computer Science and Engineering**

2010 – present

- Ph.D. Student, System Energy Efficiency Lab (SEELab)
- M.S., Computer Science (2012)
- Advisor: Tajana Simunic Rosing

**University of Virginia – School of Engineering and Applied Science**

2004 – 2008

- B.S., Electrical Engineering, Computer Science

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## PUBLICATIONS

### CONFERENCES

- **J. Venkatesh**, B. Aksanli, and T. Rosing. "HomeSim: Comprehensive, Smart, Residential Energy Simulation and Scheduling" in *IGCC '13*, Arlington 2013
- **J. Venkatesh**, B. Aksanli, and T. Rosing. "Residential Energy Simulation and Scheduling: A Case Study Approach" in *ISCC '13*, Split, 2013.
- B. Aksanli, **J. Venkatesh**, and T. Rosing. "A Comprehensive Approach to Reduce the Energy Cost of Network of Datacenters" in *ISCC '13*, Split, 2013.
- B. Aksanli et. al. Distributed Control of a Swarm of Buildings Connected to a Smart Grid. *ACM International Conference on Embedded Systems For Energy-Efficient Buildings (BuildSys)*, 2014.
- **J. Venkatesh**, M. Moghimi, P. Zappi, and T. Rosing. "Context-Aware Mobile Power Management Using Fuzzy Inference as a Service" in *MobiCASE '12*, Seattle, 2012.
- B. Aksanli, **J. Venkatesh**, L. Zhang, and T. Rosing. "Utilizing Green Energy Prediction to Schedule Mixed Batch and Service Jobs in Data Centers" in *SOSP: Hotpower '11*, Cascais, 2011.

Best of Hotpower

### JOURNALS/BOOKS/CHAPTERS

- B. Aksanli, **J. Venkatesh**, I. Monga, and T. Rosing. Renewable Energy Prediction for Improved Utilization and Efficiency in Datacenters and Backbone Networks in *Computational Sustainability (Springer Book Chapter)*, 2015

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- B. Aksanli, **J. Venkatesh**, and T. Rosing. "Using Datacenter Simulation to Evaluate Green Energy Integration" *IEEE Computer*, Volume 45, Issue 9, 2012.
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#### **TEACHING EXPERIENCE**

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- WES 237A – Embedded Systems Winter 2013
- Introduction to Computer Science, Pacific Ridge School, Carlsbad, CA 2013-2014