James Bornholt

Contact	Computer Science and Engineering Box 352350 Seattle, WA 98195-2350	bornholt@uw.edu https://homes.cs.washington.edu/~bornholt/

Education

University of Washington, Seattle, WA, USA
PhD, Computer Science and Engineering   September 2014 – present

- Advisers: Luis Ceze, Dan Grossman, and Emina Torlak
- Member of the Sampa computer architecture lab

Australian National University, Canberra, Australia
Bachelor of Philosophy with First Class Honours and the University Medal   January 2010 – December 2013

- Majors in Computer Science and Mathematics
- Thesis: *Abstractions and Techniques for Programming with Uncertain Data*, advised by Steve Blackburn

Publications

Conference Papers

J. Bornholt, T. Mytkowicz, and K.S. McKinley. *Uncertain⟨T⟩: A First-Order Type for Uncertain Data*. In ASPLOS 2014, Salt Lake City, UT, USA, March 2014. *ACM SIGPLAN Research Highlight, November 2014.*

Workshop Papers

J. Bornholt, T. Mytkowicz, and K.S. McKinley. *There's Something About Bayes: Effective Probabilistic Programming for the Rest of Us*. In APPROX 2014, colocated with PLDI 2014, Edinburgh, UK, June 2014.

Posters

J. Bornholt. *Uncertain⟨T⟩: A First-Order Type for Uncertain Data*. In PLDI 2013, Seattle, WA, USA, July 2013. *Second Place, ACM Student Research Competition Grand Final, 2014. Winner, PLDI Student Research Competition, 2013.*

J. Bornholt, T. Mytkowicz, and K.S. McKinley. *The Model Is Not Enough: Understanding Energy Consumption in Mobile Devices*. In Hot Chips 24, Cupertino, CA, USA, August 2012.

Experience

Microsoft Research, Canberra, Australia
Software Engineer   January 2014 – September 2014

Implemented and extended Uncertain⟨T⟩ to handle more complex problems through Bayesian inference.

Microsoft Research, Redmond, Washington, USA
Research Intern, Research in Software Engineering (RiSE) group   November 2012 – February 2013

Designed Uncertain⟨T⟩, a first-order type for programming with probabilistic data (e.g. GPS data).

Microsoft Research, Redmond, Washington, USA
Research Intern, Research in Software Engineering (RiSE) group   November 2011 – February 2012

Designed and implemented a technique for profiling application energy usage on mobile devices.

Google Summer of Code
Jikes RVM   Summer 2011

Implemented the JVM Tools Interface (JVMTI) in Jikes RVM, an open source JVM written in Java.

Service

Students advised:
- Emily McAlister, B. Software Eng., ANU, 2014 (co-advised with Steve Blackburn and Kathryn McKinley)
  Thesis: *The Relationship Between Software and Hardware Energy Consumption on Android Mobile Devices*

Paper reviews: ASPLOS 2015

Awards

- David Notkin Endowed Graduate Fellowship, University of Washington, 2014–2015
- Second Place, ACM Student Research Competition Grand Finals (undergraduate category), 2014

- ANU University Medal for Computer Science, 2013
- Winner, ACM PLDI Student Research Competition (undergraduate category), 2013
- ANU Erin Brent Computer Science Prize, 2013
- ANU College of Engineering and Computer Science Dean's Prize, 2013
- ANU Boyapati Computer Science and Mathematics Prize, 2010, 2011 and 2012

Technical Experience

Programming languages: Experience with Python, Java, and C. Familiarity with C++, C#, JavaScript.
Other: HTML and CSS; Mercurial, Git, and Subversion; Max OS X and Linux; LaTeX.