

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 <i>PhD, Computer Science and Engineering</i> <ul style="list-style-type: none">• Advisors: Luis Ceze, Dan Grossman, and Emina Torlak• Member of the programming languages and computer architecture groups Australian National University <i>Bachelor of Philosophy with First Class Honours and the University Medal</i> <ul style="list-style-type: none">• Majors in Computer Science and Mathematics• Thesis: <i>Abstractions and Techniques for Programming with Uncertain Data</i>, advised by Steve Blackburn	Seattle, WA, USA September 2014 – present Canberra, Australia January 2010 – December 2013
Experience	University of Washington <i>Graduate Student Researcher</i> Microsoft Research <i>Software Engineer</i> Microsoft Research <i>Research Intern, Research in Software Engineering (RiSE) group</i> Microsoft Research <i>Research Intern, Research in Software Engineering (RiSE) group</i> Google Summer of Code <i>Jikes RVM</i>	Seattle, WA, USA September 2014 – present Canberra, Australia January 2014 – September 2014 Redmond, WA, USA November 2012 – February 2013 Redmond, WA, USA November 2011 – February 2012 Summer 2011
Publications	Conference and Journal Papers <p>J. Bornholt, E. Torlak, D. Grossman, and L. Ceze. <i>Optimizing Synthesis with Metasketches</i>. To appear in POPL 2016, St. Petersburg, FL, USA, January 2016.</p> <p>J. Bornholt, T. Mytkowicz, and K.S. McKinley. <i>Uncertain(T): Abstractions for Uncertain Hardware and Software</i>. In IEEE Micro, vol. 35, no. 3, pp. 132–143, May–June 2015. <i>IEEE Micro’s Top Picks from the Computer Architecture Conferences</i>.</p> <p>A. Sampson, J. Bornholt, and L. Ceze. <i>Hardware–Software Co-Design: Not Just a Cliché</i>. In SNAPL 2015, Asilomar, CA, USA, May 2015.</p> <p>J. Bornholt, T. Mytkowicz, and K.S. McKinley. <i>Uncertain(T): A First-Order Type for Uncertain Data</i>. In ASPLOS 2014, Salt Lake City, UT, USA, March 2014. <i>ACM SIGPLAN Research Highlight, November 2014. Selected for IEEE Micro’s Top Picks from the Computer Architecture Conferences, 2015.</i></p> Workshop Papers <p>J. Bornholt and E. Torlak. <i>Scaling Program Synthesis by Exploiting Existing Code</i>. In ML4PL 2015, colocated with ECOOP 2015, Prague, Czech Republic, July 2015.</p> <p>J. Bornholt, E. Torlak, L. Ceze, and D. Grossman. <i>Approximate Program Synthesis</i>. In WAX 2015, colocated with PLDI 2015, Portland, OR, USA, June 2015.</p> <p>M. Wyse, A. Baixo, T. Moreau, B. Zorn, J. Bornholt, A. Sampson, L. Ceze, and M. Oskin. <i>REACT: A Framework for Rapid Exploration of Approximate Computing Techniques</i>. In WAX 2015, colocated with PLDI 2015, Portland, OR, USA, June 2015.</p> <p>J. Bornholt, N. Meng, T. Mytkowicz, and K.S. McKinley. <i>Programming the Internet of Uncertain (T)hings</i>. In SCAW 2015, colocated with HPCA 2015, San Francisco, CA, USA, February 2015.</p> <p>J. Bornholt, T. Mytkowicz, and K.S. McKinley. <i>There’s Something About Bayes: Effective Probabilistic Programming for the Rest of Us</i>. In APPROX 2014, colocated with PLDI 2014, Edinburgh, UK, June 2014.</p> Posters	

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

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.

Teaching	Tutor , University of Washington • CSE 341 (Programming Languages)	January 2015 – present
Service	Students Advised • Emily McAlister, B. Software Eng., ANU, 2014 (co-advised with Steve Blackburn and Kathryn McKinley) Thesis: <i>The Relationship Between Software and Hardware Energy Consumption on Android Mobile Devices</i> Committee Membership • POPL Artifact Evaluation Committee, 2016 • PLDI Artifact Evaluation Committee, 2015 External Reviews • CAV 2015 • ACM Transactions on Embedded Computing (TECS) 2015 • ASPLOS 2015	
Awards	<ul style="list-style-type: none">• IEEE Micro Top Picks from the Computer Architecture Conferences, for Uncertain⟨T⟩, 2015• ACM SIGPLAN Research Highlight, for Uncertain⟨T⟩, 2014• 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	