

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: Emina Torlak, Dan Grossman, Luis Ceze• 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	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>	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, A. Kaufmann, J. Li, A. Krishnamurthy, E. Torlak, and X. Wang. <i>Specifying and Checking File System Crash-Consistency Models</i>. In ASPLOS 2016, Atlanta, GA, USA, April 2016.</p> <p>J. Bornholt, R. Lopez, D. M. Carmean, L. Ceze, G. Seelig, and K. Strauss. <i>A DNA-Based Archival Storage System</i>. In ASPLOS 2016, Atlanta, GA, USA, April 2016.</p> <p>J. Bornholt, E. Torlak, D. Grossman, and L. Ceze. <i>Optimizing Synthesis with Metasketches</i>. 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>	

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. 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
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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>	
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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	
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