Ross Tate — Assistant Professor in the Department of Computer Science at Cornell University

Contact Information

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Cornell University
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Citizenship

USA, Canada

Research Interests

Language Design, Type Theory, Effects, Semantics, Mathematical Foundations

Education

University of California, San Diego, CA USA

Ph.D., Computer Science and Engineering, July 2012

Advised by Associate Professor Sorin Lerner

California Polytechnic State University, San Luis Obispo, CA USA

B.S., Mathematics, and B.S., Computer Science, June 2006

Awards

Dahl-Nygaard Junior Prize, 2017
Distinguished Paper Award for Java and Scala's Type Systems are Unsound, 2016
Microsoft Research Fellowship, 2009

Publications

Nada Amin and Ross Tate. Java and Scala's Type Systems are Unsound. *OOPSLA '16: Proceedings of the international conference on Object-Oriented Programming, Systems, Languages, and Applications.*

Stephen Longfield, Brittany Nkounkou, Rajit Manohar, and Ross Tate. Preventing Glitches and Short Circuits in High-Level Self-Timed Chip Specifications. *PLDI '15: Proceedings of the conference on Programming Language Design and Implementation.*

Ben Greenman, Fabian Muehlboeck, and Ross Tate. Getting F-Bounded Polymorphism into Shape. *PLDI '14: Proceedings of the conference on Programming Language Design and Implementation.*

Ross Tate. Mixed-Site Variance. *FOOL '13: International workshop on Foundations of Object-Oriented Languages.*

Ross Tate. The Sequential Semantics of Producer Effect Systems. *POPL '13: Proceedings of the symposium on Principles of Programming Languages.*

Ross Tate, Alan Leung, and Sorin Lerner. Taming Wildcards in Java's Type System. *PLDI '11: Proceedings of the conference on Programming Language Design and Implementation.*

Ross Tate, Mike Stepp, Zachary Tatlock, and Sorin Lerner. Equality Saturation: a new Approach to Optimization. *LMCS-7(1:10) '11: Logical Methods in Computer Science.*

Mike Stepp, Ross Tate, and Sorin Lerner. Equality-based Translation Validator for LLVM. *CAV '11: Proceedings of the conference on Computer Aided Verification.*

Ross Tate, Juan Chen, and Chris Hawblitzel. Inferable Object-Oriented Typed Assembly Language. *PLDI '10: Proceedings of the conference on Programming Language Design and Implementation.*

Ross Tate, Mike Stepp, and Sorin Lerner. Generating Compiler Optimizations from Proofs. *POPL '10: Proceedings of the symposium on Principles of Programming Languages.*

Ross Tate, Mike Stepp, Zachary Tatlock, and Sorin Lerner. Equality Saturation: a new Approach to Optimization. *POPL '09: Proceedings of the symposium on Principles of Programming Languages.*

Industry Collaboration

Red Hat
Type-System Advisor for the *Ceylon language design and implementation team*

JetBrains
Type-System Advisor for the *Kotlin language design and implementation team*

Grants

NSF CAREER: Gradual Typing for Industry Programming, 2014

Gifts

JetBrains, 2013: $30,000
Microsoft Research, 2012: $15,000

Industry Research Experience

Microsoft Research, Redmond, WA USA
Integrating Effects into Functional Programming Languages
Research Intern August 2009 to Novemeber 2009
Mentored by Daan Leijen

Microsoft Research, Redmond, WA USA
Type Inference over Assembly Code from Object-Oriented Programs
Research Intern July 2008 to October 2008
Mentored by Juan Chen and Chris Hawblitzel

Industry Experience

Treyarch, Santa Monica, CA USA
Console Video Game Developer

Programming Intern on Spider-Man Web of Shadows **July 2007 to Sept. 2007**

Game-Play Engineer Intern on Spider-Man 3 **June 2005 to Sept. 2005**

CustomFlix, San Luis Obispo, CA USA
Independent and User Film Production and Marketing Website

Junior Software Engineer **May 2004 to November 2004**

Academic Service

Organizer

PLMW 2015 and 2016

Steering-Committee Member

PLMW 2016 to present

Program-Committee Member

POPL 2014

Treasurer

POPL 2014-2018