

Ross Tate

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| CONTACT INFORMATION | Department of Computer Science and Engineering University of California, San Diego 9500 Gilman Drive, Mail Code 0404 La Jolla, CA 92093-0404 USA | Voice: (650) 867-3233 E-mail: rtate@cs.ucsd.edu WWW: cseweb.ucsd.edu/~rtate/ |
| RESEARCH INTERESTS | Language Design, Program Optimization, Type Theory, Semantics, Program Analysis | |
| EDUCATION | University of California, San Diego , CA USA Ph.D., Computer Science and Engineering (expected graduation date: June 2012) <ul style="list-style-type: none">• Advisor: Associate Professor Sorin Lerner• Concentration: Programming Languages California Polytechnic State University, San Luis Obispo , CA USA B.S., Mathematics, June 2006 B.S., Computer Science, June 2006 | |
| PUBLICATIONS | <p>Ross Tate, Alan Leung, and Sorin Lerner. Taming Wildcards in Java's Type System. <i>PLDI '11: Proceedings of the conference on Programming Language Design and Implementation</i>.</p> <p>Ross Tate, Mike Stepp, Zachary Tatlock, and Sorin Lerner. Equality Saturation: a new Approach to Optimization. <i>LMCS-7(1:10) '11: Logical Methods in Computer Science</i>.</p> <p>Mike Stepp, Ross Tate, and Sorin Lerner. Equality-based Translation Validator for LLVM. <i>CAV '11: Proceedings of the conference on Computer Aided Verification</i>.</p> <p>Ross Tate, Juan Chen, and Chris Hawblitzel. Inferable Object-Oriented Typed Assembly Language. <i>PLDI '10: Proceedings of the conference on Programming Language Design and Implementation</i>.</p> <p>Ross Tate, Mike Stepp, and Sorin Lerner. Generating Compiler Optimizations from Proofs. <i>POPL '10: Proceedings of the symposium on Principles of Programming Languages</i>.</p> <p>Ross Tate, Mike Stepp, Zachary Tatlock, and Sorin Lerner. Equality Saturation: a new Approach to Optimization. <i>POPL '09: Proceedings of the symposium on Principles of Programming Languages</i>.</p> | |
| INDUSTRY COLLABORATION | Red Hat | <i>Type-System Advisor for Ceylon programming-language design and implemenation team</i> The Ceylon team at Red Hat is designing a new industry-directed statically typed object-oriented programming language, attempting to incorporate the years of experience proffered by languages such as Java, C#, and Scala. They contacted me due to my work on wildcards in Java, adapting the declaration-site variant of my solution into their own language. From that, I started a collaboration with them in which I review their type system and language specification, identify problems and opportunities, and discuss solutions, which is leading to interesting new type theories and new algorithms for type checking and type inference while still maintaining simplicity for users of the language. |

