

Ravi Chugh

CONTACT INFORMATION

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La Jolla, CA 92092

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INTERESTS

Design and implementation of programming languages, compilers, and program analyses.

EDUCATION

University of California, San Diego, La Jolla, CA

Ph.D., Computer Science (expected spring 2013).

Dissertation Topic: “Nested Refinement Types for Dynamic Languages”

University of Pennsylvania, Philadelphia, PA

Graduated *summa cum laude*, May 2007.

M.S.E., B.S.E., Computer Science.

Deerfield Academy, Deerfield, MA

Graduated *cum laude*, May 2002.

Editor-in-chief, *The Deerfield Scroll*.

RESEARCH EXPERIENCE

University of California, San Diego, La Jolla, CA

Graduate Student Researcher, June 2007 – present. Advisors: Ranjit Jhala and Sorin Lerner

Mozilla Research, San Francisco, CA

Research Engineer Intern, January 2012 – present. Mentor: David Herman

Microsoft Research, Redmond, WA

Research Intern, May 2009 – August 2009. Mentor: Nikhil Swamy

TEACHING EXPERIENCE

University of California, San Diego, La Jolla, CA

Teaching Assistant

Course: Programming Languages: Principles and Paradigms (2 quarters)

University of Pennsylvania, Philadelphia, PA

Co-instructor, Summer Academy in Applied Science & Technology, July 2007

Designed a 3-week course in basic hardware and software algorithms.

Taught 21 high school students for 1.75 hours 4 times per week.

Produced 100 reusable pages of lecture notes, problem sets, and quizzes.

Teaching Assistant, September 2004 – May 2007

Courses:

Programming Languages and Techniques (3 semesters)

Introduction to C# (2 semesters)

Mathematical Foundations of Computer Science (2 semesters)

Taught recitations of 10–25 students, held weekly office hours, and taught review sessions.

Designed in-class assignments and homeworks.

PROFESSIONAL EXPERIENCE

Microsoft Corporation, Redmond, WA

Software Design Engineer Intern, Windows Live Local, May 2006 – August 2006

Server-side database processing to compute map overlay data and client-side code to render it.

Program Manager Intern, Internet Explorer, May 2005 – August 2005

Developed web applications to automate tracking of bug fixes and hotfix releases.

PAPERS

Ravi Chugh and Ranjit Jhala. **Dependent Types for JavaScript**. In submission, December 2011.

Ravi Chugh, Patrick M. Rondon, and Ranjit Jhala. **Nested Refinements: A Logic for Duck Typing**. In *Proceedings of the 2012 ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL)*, Philadelphia, PA, January 2012.

Ravi Chugh, Ranjit Jhala, and Sorin Lerner. **Type Inference with Run-time Logs**. In *2nd International Workshop on Script to Program Evolution (STOP)*, Austin, TX, January 2011.

Juan Chen, Ravi Chugh, and Nikhil Swamy. **Type-preserving Compilation for End-to-end Verification of Security Enforcement**. In *Proceedings of the 2010 ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, Toronto, Canada, June 2010.

Nikhil Swamy, Juan Chen, and Ravi Chugh. **Enforcing Stateful Authorization and Information Flow Policies in Fine**. In *Proceedings of the 19th European Symposium on Programming (ESOP)*, Paphos, Cyprus, March 2010.

Ravi Chugh, Jeffrey A. Meister, Ranjit Jhala, and Sorin Lerner. **Staged Information Flow for JavaScript**. In *Proceedings of the 2009 ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, Dublin, Ireland, June 2009.

Ravi Chugh, Jan W. Voong, Ranjit Jhala, and Sorin Lerner. **Dataflow Analysis for Concurrent Programs using Datarace Detection**. In *Proceedings of the 2008 ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, Tucson, AZ, June 2008.

TALKS

Nested Refinements: A Logic for Duck Typing.

POPL, Philadelphia, PA. January 26, 2012.

Dagstuhl Seminar, “Foundations of Scripting Languages,” Germany. January 4, 2012.

SoCal, La Jolla, CA. December 3, 2011.

Type Inference with Run-time Logs.

STOP, Austin, TX. January 29, 2011.

Kyoto University, Kyoto, Japan. January 17, 2011.

SoCal, Los Angeles, CA. December 4, 2010.

Fine + DCIL: End-to-end Verification of Security Enforcement.

Microsoft Research, Redmond, WA. August 7, 2009.

Staged Information Flow for JavaScript.

PLDI, Dublin, Ireland. June 16, 2009.

AWARDS

School of Engineering and Applied Science, University of Pennsylvania:

Hugo Otto Wolf Memorial Prize (April 2007)

Walter Korn Award (April 2007)

Eta Kappa Nu – Electrical and Computer Engineering Honor Society (October 2006)

SERVICE

External reviewer (OOPSLA 2011, ESOP 2011, CC 2009)

PERSONAL

Spent academic year 2002–03 at Maru-a-Pula School in Gaborone, Botswana. Assisted and performed with acclaimed Maru-a-Pula Marimba Band, and served as an aide to various teachers.

USGA Handicap Index: 5.5 (hopelessly out of date).