

Ravi Chugh

CONTACT INFORMATION	3357 Lebon Drive #102, San Diego, CA, 92122 ravichugh.com rchugh@cs.ucsd.edu (267) 258-4933
INTERESTS	Programming Languages, Verification, Program Analysis, Compilers
EDUCATION	University of California, San Diego , La Jolla, CA Ph.D., Computer Science, September 2013. Dissertation Title: “Nested Refinement Types for JavaScript” Dissertation Advisor: Ranjit Jhala University of Pennsylvania , Philadelphia, PA M.S.E., B.S.E., Computer Science, May 2007. Graduated <i>summa cum laude</i> .
RESEARCH EXPERIENCE	University of California, San Diego , La Jolla, CA <i>Postdoctoral Scholar</i> , September 2013 – present. <i>Graduate Student Researcher</i> , June 2007 – September 2013. Mozilla Research , San Francisco, CA <i>Research Intern</i> , January 2012 – April 2012. Mentor: David Herman Microsoft Research , Redmond, WA <i>Research Intern</i> , May 2009 – August 2009. Mentor: Nikhil Swamy
CONFERENCE PAPERS	Ravi Chugh, David Herman, and Ranjit Jhala. Dependent Types for JavaScript . In <i>ACM SIGPLAN Conference on Object-Oriented Programming Systems, Languages, and Applications (OOP-SLA)</i> , Tucson, AZ, October 2012. Ravi Chugh, Patrick M. Rondon, and Ranjit Jhala. Nested Refinements: A Logic for Duck Typing . In <i>ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL)</i> , Philadelphia, PA, January 2012. Juan Chen, Ravi Chugh, and Nikhil Swamy. Type-preserving Compilation for End-to-end Verification of Security Enforcement . In <i>ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)</i> , Toronto, Canada, June 2010. Nikhil Swamy, Juan Chen, and Ravi Chugh. Enforcing Stateful Authorization and Information Flow Policies in Fine . In <i>19th European Symposium on Programming (ESOP)</i> , Paphos, Cyprus, March 2010. Ravi Chugh, Jeffrey A. Meister, Ranjit Jhala, and Sorin Lerner. Staged Information Flow for JavaScript . In <i>ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)</i> , Dublin, Ireland, June 2009. Ravi Chugh, Jan W. Voung, Ranjit Jhala, and Sorin Lerner. Dataflow Analysis for Concurrent Programs using Datarace Detection . In <i>ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)</i> , Tucson, AZ, June 2008.
WORKSHOP PAPERS	Ravi Chugh. A Fix for Dynamic Scope . In <i>ACM Workshop on ML</i> , Boston, MA, September 2013. Ravi Chugh, David Herman, and Ranjit Jhala. Status Report: Dependent Types for JavaScript . In <i>Workshop on Script to Program Evolution (STOP)</i> , Beijing, China, June 2012.

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

SELECTED TALKS **A Fix for Dynamic Scope.**
ML Workshop, Boston, MA. September 22, 2013.

Nested Refinement Types for JavaScript.
Northeastern University, Boston, MA. September 30, 2013.
University of California, San Diego, CA. September 3, 2013. (Dissertation Defense)
University of California, San Diego, CA. November 16, 2011. (Thesis Proposal)

Dependent Types for JavaScript.
HCSS, Annapolis, MD. May 7, 2013.
SoCal, Riverside, CA. November 30, 2012.
OOPSLA, Tucson, AZ. October 24, 2012.
Dagstuhl, "Web Application Security," Wadern, Germany. October 2, 2012.
JSTools, Beijing, China. June 13, 2012.
STOP, Beijing, China. June 11, 2012.

Nested Refinements: A Logic for Duck Typing.
POPL, Philadelphia, PA. January 26, 2012.
Dagstuhl, "Foundations of Scripting Languages," Wadern, 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.

TEACHING EXPERIENCE **University of California, San Diego, La Jolla, CA**
Instructor, January 2014 – March 2014 (upcoming)
"PL: Principles and Paradigms" (undergraduate; 1 quarter)
Topics in functional, object-oriented, and relational programming languages.
Teaching Assistant, 2009 – 2010
"PL: Principles and Paradigms" (undergraduate; 2 quarters)
Introduced in-class, group assignments to help improve class attendance.
Guest Lecturer, 2008, 2009, 2013
"Advanced Compilers" (graduate; 2 lectures)
"Algorithmic Software Verification" (graduate; 1 lecture)
"Principles of Software Engineering" (graduate; 1 lecture)
Presented topics in program analysis and type systems.

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University of Pennsylvania, Philadelphia, PA

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

“Hardware and Software Algorithms” (high school; 3 weeks)

Designed course to complement introductory programming curriculum.

Produced reusable lecture notes, problem sets, and quizzes.

Taught 21 students for 1.75 hours 4 times per week.

Teaching Assistant, September 2004 – May 2007

“Mathematical Foundations of CS” (graduate; 2 semesters)

“Programming Languages and Techniques” (undergraduate; 3 semesters)

“Introduction to C#” (undergraduate; 2 semesters)

Led recitations of 10–25 students, office hours, and review sessions.

Designed in-class and homework assignments.

Canadian Academy, Kobe, Japan

Guest Lecturer, January 2011

“AP Calculus” (high school; 1 lecture)

“IB Math Higher-Level” (high school; 1 lecture)

Introduced basic concepts and career opportunities in computer science.

INDUSTRIAL
EXPERIENCE

Microsoft Corporation, Redmond, WA

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

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

PROFESSIONAL
SERVICE

Program Committees: POPL 2015, OOPSLA 2014, FOOL 2013

External Review Committees: PLDI 2014

External Reviews: POPL 2014

Sub-reviews: OOPSLA 2011, ESOP 2011, CC 2009

Journal Article Reviews: TOPLAS (2013)

PERSONAL

Spent academic year 2002–2003 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.

REFERENCES

Ranjit Jhala (Ph.D. Advisor)

University of California, San Diego

Michael Hicks

University of Maryland, College Park

Shriram Krishnamurthi

Brown University

Sorin Lerner

University of California, San Diego

Nikhil Swamy

Microsoft Research