

William R. Harris

CONTACT INFORMATION

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RESEARCH INTERESTS

Software security, end-user programming, (interactive) program verification and synthesis

EDUCATION

University of Wisconsin-Madison, Madison, WI, USA

Ph.D. in Computer Science 2014 (expected)

- Advisors: Somesh Jha and Thomas Reps
- Thesis topic: *Secure Programming via Game-based Synthesis*

M.S. in Computer Science 2011

Purdue University, West Lafayette, IN, USA

B.S. in Computer Science and Mathematics (Honors, with Distinction) 2007

CONFERENCE PUBLICATIONS

William R. Harris, Guoliang Jin, Shan Lu, and Somesh Jha. *Validating Library Usage Interactively. Computer Aided Verification (CAV) 2013.*

William R. Harris, Somesh Jha, Thomas Reps, Jonathan Anderson, and Robert N. M. Watson. *Declarative, Temporal, and Practical Programming with Capabilities. IEEE Symposium on Security and Privacy (Oakland) 2013.*

Florian Stagstetter, Martin Lukasiewicz, Sebastian Steinhorst Marko Wolf, Alexandre Bouard, William R. Harris, Somesh Jha, Thomas Peyrin, Axel Poschmann, and Samarjit Chakraborty. *Security Challenges in Automotive Hardware/Software Architecture Design. Design, Automation & Test in Europe (DATE) 2013 (Invited).*

William R. Harris, Somesh Jha, and Thomas Reps. *Secure Programming via Visibly Pushdown Safety Games. Computer Aided Verification (CAV) 2012.*

William R. Harris and Sumit Gulwani. *Spreadsheet Table Transformations from Examples. Programming Language Design and Implementation (PLDI) 2011 (Recognized in a CACM Research Highlight).*

William R. Harris, Somesh Jha, and Thomas W. Reps. *DIFC Programs by Automatic Instrumentation. Computer and Communications Security (CCS) 2010.*

William R. Harris, Akash Lal, Aditya V. Nori, and Sriram K. Rajamani. *Alternation for Termination. Static Analysis Symposium (SAS) 2010.*

William R. Harris, Sriram Sankaranarayanan, Franjo Invancic, and Aarti Gupta. *Program Analysis via Satisfiability Modulo Path Programs. Principles of Programming Languages (POPL) 2010.*

William R. Harris, Nicholas A. Kidd, Sagar Chaki, Somesh Jha, and Thomas W. Reps. *Verifying Information Flow Control Over Unbounded Processes. Formal Methods (FM) 2009.*

Journal Publications

Sumit Gulwani, William R. Harris, and Rishabh Singh. *Spreadsheet Data Manipulation Using Examples. Communications of the ACM (CACM) 55(8) (Research Highlight paper).*

TUTORIALS	<i>Secure Programs via Game-based Synthesis</i> Formal Methods in Computer-Aided Design (FMCAD), Portland, OR, USA	2013
OUTSIDE COLLOQUIA	<i>Secure Programming via Visibly Pushdown Safety Games</i> Google Inc., Madison, WI, USA	2012
	<i>Policy Weaving for Secure Systems</i> MIT Programming Languages Working Group, MIT, Boston, MA, USA	2011
RESEARCH EXPERIENCE	University of Wisconsin-Madison , Madison, WI, USA Secure programming and game-based synthesis <i>Research Assistant</i> : Advised by Somesh Jha and Thomas Reps	2007 – Present
	Microsoft Research , Redmond, WA, USA End-user programming by example <i>Research Intern</i> : Mentored by Sumit Gulwani	2010
	Microsoft Research India , Bangalore, Karnataka, India Termination analysis of programs <i>Research Intern</i> : Mentored by Aditya Nori and Sriram Rajamani	2009
	NEC Labs America , Princeton, NJ, USA Safety analysis of programs <i>Research Intern</i> : Mentored by Sriram Sankaranarayanan, Franjo Ivančić, and Aarti Gupta	2008
	Google Inc. , Mountain View, CA, USA Hardware profiling and application-performance analysis <i>Software Engineering Intern</i> : Mentored by Silvius Rus	2007
TEACHING EXPERIENCE	Guest Lecturer for “Introduction to Programming Languages and Compilers” (University of Wisconsin-Madison, CS 536) Senior-undergraduate-level course. Instructor: Somesh Jha	2012
	Project Mentor for “Introduction to Information Security” (University of Wisconsin-Madison, CS 642) Graduate and senior-undergraduate level course. Instructor: Somesh Jha	2007 – 2008
	Lab Teaching Assistant for “Introduction to Java” (Purdue University, CS 180) Freshman-undergraduate level course. Instructor: H. E. Dunsmore.	2004 – 2007
	Lab Teaching Assistant for “Ordinary Differential Equations” (Purdue University, MA 366) Sophomore-undergraduate level course. Instructor: Johnny E. Brown	2005
HONORS AND AWARDS	CACM Research Highlight invitation (joint with Sumit Gulwani)	2012
	Microsoft Research Graduate Fellowship Award	2010 – 2011
	NSF Graduate Research Fellowship Program: Honorable Mention	2009
	Glen E. Baxter Award	2007

	Phi Beta Kappa	2007
	Upsilon Pi Epsilon: Computer Science Honor Society	2006
	Purdue University Dept. of Computer Science Scholarship	2006
	National Merit Scholar	2003
SERVICE	Program Committee: Symposium on Access Control Models and Technologies (SACMAT)	2014
	External Reviewer: Computer Aided Verification (CAV)	2012, 2013
	External Reviewer: Computer and Communications Security (CCS)	2010, 2011
	External Reviewer: IEEE Symposium on Security and Privacy (“Oakland”)	2008, 2010
	External Reviewer: Principles of Programming Languages (POPL)	2011
	External Reviewer: USENIX Security Symposium	2010
	UW-Madison Dept. of Computer Sciences Graduate Admissions Committee	2008