

Justin Smith

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EDUCATION	North Carolina State University , Raleigh, NC	2014–Present
	PhD Student in Computer Science	
	<i>Proposed Dissertation Title: Supporting Effective Strategies for Resolving Vulnerabilities Reported by Static Analysis Tools</i>	
	MS in Computer Science Dean’s Merit Award, GPA – 4.0	May, 2016
	Hamilton College , Clinton, NY	May, 2014
	Bachelor of Arts with Honors in Computer Science and Mathematics	
	Magna Cum Laude, Elihu Root Fellow	
RESEARCH EXPERIENCE	North Carolina State University Dept. of Computer Science	
	Advisors: Emerson Murphy-Hill and Kathryn Stolee	
	<i>Graduate Research Assistant: Developer Liberation Front</i>	2014–Present
	Empirical software engineering research, including the application of HCI techniques to aid software developers.	
	Microsoft Research , Redmond, WA	
	Advisor: Ben Zorn	
	<i>Research Intern</i>	2018
	Developed machine learning models for Microsoft Excel spreadsheets. Curated large datasets for training, testing, and validation.	
	ABB Corporate Research , Raleigh, NC	
	Advisor: Nicholas Kraft	
	<i>Research Intern</i>	2016
	Investigated the practical challenges facing end-user programmers at ABB. Surveyed and interviewed spreadsheet users. Designed and prototyped tool interventions.	
	Hamilton College Dept. of Computer Science , Clinton, NY	
	Advisor: Mark Bailey	
	<i>Honors Thesis Research</i>	2014
	Designed and implemented a statically-typed shell scripting language	
	Hamilton College Dept. of Computer Science , Clinton, NY	
	<i>Undergraduate Research Assistant</i>	2012
	Developed framework for capturing programming sessions in Emacs	
PUBLICATIONS	Does ACM’s Code of Ethics Change Ethical Decision Making in Software Development?	
	Andrew McNamara, <u>Justin Smith</u> , Emerson Murphy-Hill	
	<i>International Conference on the Foundations of Software Engineering</i> (FSE 2018)	
	New Ideas and Emerging Results Track	
	How Developers Diagnose Potential Security Vulnerabilities with a Static Analysis Tool	
	<u>Justin Smith</u> , Brittany Johnson, Emerson Murphy-Hill, Bill Chu, Heather Lipford	

Flower: Navigating Program Flow in the IDE

Justin Smith, Chris Brown, Emerson Murphy-Hill

Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2017)

Spreadsheet Practices and Challenges in a Large Multinational Conglomerate

Justin Smith, Justin A. Middleton, Nicholas A. Kraft

Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2017)

Just-in-Time Static Analysis

Lisa Nguyen, Karim Ali, Ben Livshits, Eric Bodden, Justin Smith, Emerson Murphy-Hill

International Symposium on Software Testing and Analysis (ISSTA 2017)

ACM SIGSOFT Distinguished Paper Award

Do Developers Pay Attention to Error Messages?

Titus Barik, Justin Smith, Kevin Lubick, Elisabeth Holmes, Jing Feng, Emerson Murphy-Hill, Chris Parnin

International Conference on Software Engineering (ICSE 2016)

Paradise Unplugged: Identifying Barriers for Female Participation on Stack Overflow

Denae Ford, Justin Smith, Philip Guo, Chris Parnin

International Conference on the Foundations of Software Engineering (FSE 2016)

A Cross-Tool Study on Program Analysis Tool Notifications

Brittany Johnson, Rahul Pandita, Justin Smith, Denae Ford, Sarah Elder, Emerson Murphy-Hill, Sarah Heckman, Caitlin Sadowski

International Conference on the Foundations of Software Engineering (FSE 2016)

What Questions Remain? An Examination of How Developers Understand an Interactive Static Analysis Tool

Tyler Thomas, Justin Smith, Heather Lipford, Bill Chu, Emerson Murphy-Hill
Workshop on Security Information Workers at SOUPS (2016)

A Study of Interactive Code Annotation for Access Control Vulnerabilities

Tyler Thomas, Justin Smith, Emerson Murphy-Hill, Bill Chu, Heather Lipford
Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2015)

Questions Developers Ask While Diagnosing Potential Security Vulnerabilities With Static Analysis

Justin Smith, Brittany Johnson, Emerson Murphy-Hill, Bill Chu, Heather Lipford
International Conference on the Foundations of Software Engineering (FSE 2015)

Fuse: A Reproducible, Extendable, Internet-scale Corpus of Spreadsheets

Titus Barik, Kevin Lubick, Justin Smith, John Slankas, Emerson Murphy-Hill
Working Conference on Mining Software Repositories (Data Showcase) (MSR 2015)

Flower: Navigating Program Flow in the IDE

Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2017)

Resolving Input Validation Vulnerabilities by Retracing Taint Flow Through Source Code

International Conference on Software Maintenance and Evolution DS (ICSME 2016)

Symposium on Visual Languages and Human-Centric Computing GC (VL/HCC 2016)

Perquimans: A Tool for Visualizing Patterns of Spreadsheet Function Combinations

Working Conference on Software Visualization (VISSOFT 2016)

Identifying Successful Strategies for Resolving Static Analysis Notifications

International Conference on Software Engineering (ICSE 2016)

2nd place ACM Student Research Competition

Questions Developers Ask While Diagnosing Potential Security Vulnerabilities With Static Analysis

International Conference on the Foundations of Software Engineering (FSE 2015)

Improving Quality and Reducing Regression via Automated Testing for Emptoris Strategic Supply Management IBM Internship Presentations

Littleton, MA (2015)

Statically Typed Shell Scripting

Hamilton College Department of Computer Science Honors Defense Clinton, NY (2014)

Determining Set of the n-Cube

Hamilton College Department of Mathematics Honors Defense Clinton, NY (2014)

**WORK
EXPERIENCE****IBM Emptoris, Littleton, MA**

Software Engineering Intern

2015

Automated SOAP web service tests for the Emptoris Virtual Supply Master application. Integrated automated tests into the build system. Team adopted and expanded my framework, automating all web service tests.

Digitell, Jamestown, NY

Web Development Intern

2013

Created custom web application for scheduling internal events

**TEACHING
AND ADVISING
EXPERIENCE****North Carolina State University, Raleigh, NC**

Instructor, Discrete Mathematics CSC 226

2017

Guest Lecturer, Software Engineering as a Human Activity CSC 710

2017

Study Methods: Interviews and Surveys

Roberts Park Code Camp, Raleigh, NC

2016–2018

Instructor

Week-long coding camp, engaging 40 teens

	North Carolina State University Senior Design Center <i>Project Mentor, PDF Review Tool Team</i>	2018
	INTech Code Camp, Raleigh, NC <i>Tech Mentor</i> Week-long code camp for middle school girls	2017
	Science of Software REU Site, Raleigh, NC <i>Mentor</i> Nadeen Saleh, Florida Atlantic University Anthony Benavente, Western Carolina University	2016
	Wake STEM Early College High School, Raleigh, NC <i>Tutor, Computer Programming I</i>	2016
	Corinth Holders High School, Wendell, NC <i>Mentor, Advanced Placement (AP) Computer Science</i>	2015
	Hamilton College Dept. of Computer Science, Clinton, NY <i>Rusty Smith Memorial Head Teaching Assistant</i> Hired and supervised team of 25 teaching assistants	2013–2014
PROFESSIONAL ACTIVITIES	Program Committee Member and Reviewer 2018: Transactions in Software Engineering 2018: European Conference on Object-Oriented Programming Doctoral Symposium 2017: Symposium On Usable Privacy and Security 2016-17: Object-Oriented Programming, Systems, Languages & Applications Artifacts	
	Conference Organizer Symposium on Visual Languages and Human Centric Computing 2019: Proceedings Chair 2018: Social Media Chair 2017: Food Chair European Software Engineering Conference and Symposium on the Foundations of Software Engineering 2018: Social Media Chair	
	Student Volunteer 2017: Symposium on Visual Languages and Human Centric Computing 2016: International Working Conference on Source Code Analysis and Manipulation 2016: International Conference on Software Maintenance and Evolution 2016: International Conference on Software Engineering 2015: Foundations of Software Engineering	
	North Carolina State University, Raleigh, NC Department of Computer Science PhD Recruiting Ambassador	2016
	Hamilton College Programming Team, Clinton, NY Captain, Intercollegiate ACM programming competitions	2013

GRADUATE COURSEWORK	Spring 2016	User Experience Reliable Software Systems
	Fall 2015	Software Security Artificial Intelligence Written Preliminary Exam
	Spring 2015	Graph Theory DevOps
	Fall 2014	Software Engineering Compiler Construction Software Engineering as a Human Activity
LANGUAGES	Java – Professional Experience & Graduate Coursework PHP, Javascript, C# – Professional Experience C++ – Graduate Coursework Python – Teaching Experience	
PROFESSIONAL MEMBERSHIPS	Association of Computer Machinery (ACM) ACM Special Interest Group on Software Engineering (SIGSOFT) Institute of Electrical and Electronics Engineers (IEEE) Sigma Xi Scientific Research Society Phi Kappa Phi Honor Society (Invited 2016)	