

Aaron Weiss

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Research Interests	Type systems; program analysis and verification; compilers and compiler verification; security; program synthesis; programming language design and implementation
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Education	Northeastern University , <i>Boston, MA.</i> Doctor of Philosophy in Computer Science Advisor: <i>Amal Ahmed</i> 2017 – Present	
	University of Massachusetts , <i>Amherst, MA.</i> Bachelor of Science in Computer Science, <i>Summa Cum Laude</i> 2014 – 2017	

Refereed Publications	Rust Distilled: An Expressive Tower of Languages Aaron Weiss, Daniel Patterson, Amal Ahmed In <i>ML Family Workshop</i> , St. Louis, MO, September 2018. ML 2018	
	Tortoise: Interactive System Configuration Repair Aaron Weiss, Arjun Guha, Yuriy Brun In <i>IEEE/ACM International Conference on Automated Software Engineering</i> , Urbana, IL, October 2017. ASE 2017	
	Rehearsal: A Configuration Verification Tool for Puppet Rian Shambaugh, Aaron Weiss, Arjun Guha In <i>ACM SIGPLAN Conference on Programming Language Design and Implementation</i> , Santa Barbara, CA, June 2016. PLDI 2016	

Work Experience	Visiting Researcher , <i>Inria.</i> Host: <i>Cătălin Hrițcu</i> 2017 – 2018	
	Undergraduate Course Assistant , <i>University of Massachusetts.</i> CMPSCI 220 <i>Programming Methodology</i> Spring 2016, Fall 2016, Spring 2017 2016 – 2017	
	Research Assistant , <i>University of Massachusetts.</i> Advisor: <i>Arjun Guha</i> Developed novel techniques in static analysis and program synthesis for system configuration languages. Built open source tools that identify and repair bugs in real world Puppet manifests. 2015 – 2017	
	Software Developer , <i>ProtoIPO, Inc.</i> Designed user interfaces and experiences for platform and clients. Wrote middleware modules for portal software in C#. Developed systems to allow users to control page and module layout. 2014 – 2015	

Skills	Rust • Scala • OCaml • Java • C • Haskell • JavaScript • HTML • CSS • PHP Bootstrap • Git • Linux • macOS • PostgreSQL • L ^A T _E X • Puppet • SMTLIB2
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Volunteer Experience	Student Volunteer , <i>SPLASH</i> .	2018
	Problem Writer , <i>sCTF</i> . Developed problems for an international computer science competition reaching over 3,000 participants.	2015 – 2017
	Co-Founder , <i>HSCTF</i> . Founded the first ever computer science capture-the-flag competition run by high schoolers and reached over 2,700 participants.	2014
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Presentations	Oxide: The Essence of Rust , <i>POPL SRC</i> . Presented an updated high-level, conceptually-focused view of <i>Oxide</i> ₀ , a formally-defined language aiming to capture the semantics of ownership and borrowing in Rust.	January 2019
	Rust Distilled: An Expressive Tower of Languages , <i>ML</i> . Presented a high-level, conceptually-focused view of <i>Oxide</i> , a family of formally-defined languages aiming to capture the semantics of ownership and borrowing in Rust.	September 2018
	Tortoise: Interactive System Configuration Repair , <i>ASE</i> . Presented <i>Tortoise</i> and <i>imperative configuration repair</i> as a technique for live programming with Puppet and the shell at an academic conference on automated software engineering.	October 2017
	Automated System Configuration Repair , <i>NEPLS</i> . Presented and motivated a novel approach to program editing called <i>imperative configuration repair</i> and a corresponding prototype implementation for Puppet named <i>Tortoise</i> .	June 2017
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Awards	POPL '19 Student Research Competition, First Place	2019
	CMMRS '17 Travel Award	2017
	RSSL '17 Travel Award	2017
	OPLSS '17 Travel Award	2017
	PLISS '17 Travel Award	2017
	Outstanding Undergraduate Course Assistant	2017
	NSF Graduate Research Fellowship	2017 – 2022
	Northeastern University Fellowship	2017 – 2018
	PLDI '16 Distinguished Artifact Award	2016
	PLMW at ICFP 2015 Travel Scholarship	2015
	University of Massachusetts Chancellor's Scholarship	2014 – 2017