

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

Education **Northeastern University, Boston, MA.** 2017 – Present
Doctor of Philosophy in Computer Science
Advisor: *Amal Ahmed*

University of Massachusetts, Amherst, MA. 2014 – 2017
Bachelor of Science in Computer Science, *Summa Cum Laude*

Publications **Tortoise: Interactive System Configuration Repair** ASE 2017
Aaron Weiss, Arjun Guha, Yuriy Brun
In *IEEE/ACM International Conference on Automated Software Engineering*, Urbana, IL, October 2017.

Rehearsal: A Configuration Verification Tool for Puppet PLDI 2016
Rian Shambaugh, Aaron Weiss, Arjun Guha
In *ACM SIGPLAN Conference on Programming Language Design and Implementation*, Santa Barbara, CA, June 2016.

Work Experience **Visiting Researcher, Inria.** 2017 – 2018
Host: *Cătălin Hrițcu*

Undergraduate Course Assistant, University of Massachusetts. 2016 – 2017
CMPSCI 220 *Programming Methodology*
Spring 2016, Fall 2016, Spring 2017

Research Assistant, University of Massachusetts. 2015 – 2017
Advisor: *Arjun Guha*
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.

Software Developer, ProtoIPO, Inc. 2014 – 2015
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.

Volunteer Experience **Problem Writer, sCTF.** 2015 – 2017
Developed problems for an international computer science competition reaching over 3,000 participants.

Co-Founder, HSCTF. 2014
Founded the first ever computer science capture-the-flag competition run by high schoolers and reached over 2,700 participants.

Presentations **Tortoise: Interactive System Configuration Repair**, *ASE*. October 2017
Presented *Tortoise* and *imperative configuration repair* as a technique for live programming with Puppet and the shell at an academic conference on automated software engineering.

Automated System Configuration Repair, *NEPLS*. June 2017
Presented and motivated a novel approach to program editing called *imperative configuration repair* and a corresponding prototype implementation for Puppet named *Tortoise*.

Skills Scala • Java • Rust • C • Haskell • OCaml • JavaScript • HTML • CSS • PHP
Bootstrap • Git • Linux • macOS • PostgreSQL • L^AT_EX • Puppet • SMTLIB2

Awards 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
PLDI '16 Distinguished Artifact Award 2016
PLMW at ICFP 2015 Travel Scholarship 2015
University of Massachusetts Chancellor's Scholarship 2014 – 2017