

Aaron Weiss

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🌐 <https://github.com/aatxe>

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Professional Skills

Programming Languages: Rust, OCaml, Scala, Haskell, C, Python, C#, Java, JavaScript, HTML, CSS, x86/x64 Assembly

Tools: git, GitHub, TravisCI, Emacs, Slack, Homebrew, fish, cargo, dune, sbt, maven, CMake, Make, Adobe Illustrator, Affinity Designer, Affinity Publisher, Affinity Photo

Open Source Projects

🔗 **aatxe/oxide** ★ 99 **since 2017**
Languages: OCaml, Rust 708 commits, **54,566 ++**, **53,293 -**

🔗 **aatxe/irc** ★ 449 **since 2014**
Language: Rust 657 commits, **35,319 ++**, **27,138 -**

🔗 **aatxe/paxos-vc** **2020**
Language: Rust 20 commits, **6,176 ++**, **2,214 -**

🔗 **plasma-umass/Tortoise** **2017**
Language: Scala 227 commits, **8,891 ++**, **9,571 -**

🔗 **plasma-umass/Rehearsal** **2016**
Language: Scala squashed history, **12,464 ++**, **4,260 -**

Work Experience

Research Associate at SILC Lab **2017-2022**

- Headed the Oxide project, a formal semantics of the Rust programming language, which won the POPL SRC.
- Implemented an Oxide compiler and tested its compatibility with Rust on over 200 real-world tests.

Undergrad. Course Assistant at UMass **2016-2017**

- Taught 2 weekly software engineering labs of 50 students for three semesters in Scala and Python.
- Engineered in-house containerized automated grading infrastructure using Python and Docker.

Research Assistant at PLASMA Lab **2015-2017**

- Created and led the Tortoise project in Scala to automatically repair system configurations via the shell.
- Developed static analysis tools for formally verifying the correctness of system configurations in Puppet.

Software Developer at ProtoIPO, Inc. **2014-2015**

- Spearheaded development of a module-based middleware system using C# for a custom CMS.
- Designed and implemented user-customizable investment portals for 3 clients using our CMS.

Education

Northeastern University **2022**
Master of Science in Computer Science

University of Massachusetts, Amherst **2017**
Bachelor of Science in Computer Science
Summa Cum Laude

Awards

POPL Student Research Competition 🏆 **2019**

Northeastern University Fellowship **2017**

NSF Graduate Research Fellowship **2017**

Outstanding Undergrad. Course Assistant **2017**

PLDI Distinguished Artifact Award **2016**

Publications

Oxide: The Essence of Rust **arXiv 2022**
Aaron Weiss, Olek Gierczak, Daniel Patterson, Nicholas D. Matsakis, Amal Ahmed

Tortoise: **ASE 2017**
Interactive System Configuration Repair
Aaron Weiss, Arjun Guha, Yuriy Brun

Rehearsal: **PLDI 2016**
A Configuration Verification Tool for Puppet
Rian Shambaugh, Aaron Weiss, Arjun Guha

Volunteer Experience

Hiring Committee at Northeastern **2018-2019**

- Served as sole PhD representative on the faculty hiring committee.
- Organized student meetings with over 30 candidates in all areas of computing.

Organizer at sCTF **2015-2017**

- Supported the development of a seasonal security competition with 3,000 participants.

Founder at HSCTF **2014**

- Founded and organized an online computer security competition with over 2,700 participants in its inaugural year.