Gavin T. Gray

ZÜRICH, SWITZERLAND

GAVINLEROY.COM · GAVIN.GRAY@INF.ETHZ.CH · +41 76 268 16 87

Experience

Brown University Jun. '23—Aug. '23
Researcher Providence, RI

- Extended the the Rust the trait-solver implementation, Chalk, to support proof tree construction.
- Researched interactive debugging techniques and UI designs for debugging type errors.

ETH Zürich Jun. '22—Sep. '22
Researcher Zürich, CH

- Spearheaded the memory-safety verification of the Scion router prototype.
- Fixed 2 safety-critical memory vulnerabilities using the automated verifier Gobra.

Goldman Sachs Jun. '21—Aug. '21
Software engineering intern Salt Lake City, UT

- Integrated Access Fintech into the GS reconciliation platform using Java, Kafka, and Pure.
- Reduced human actions by 40% and increased data availability across business units.

Epic Systems Jun. '20—Aug. '20
Software engineering intern Verona, WI

- Implemented and tested various metrics to determine physician similarity.
- Deployed a physician suggestion engine into the Epic Earth platform using C#, Python, and Flask.

Education

ETH Zürich '21—Present
MSc in Computer Science

- Expected graduation Feb. '24.

University of Utah May '21
BSc in Computer Science

- GPA: 4.0 / 4.0 *(Summa Cum Laude)*

Skills

Functional programming: Lisp, Racket, OCaml.

Systems programming: C, C++, Rust.

Web development: TypeScript, React, HTML, CSS.

Language: English (native), Portuguese, German.

Projects

Aquascope | *Rust*

- Used online by 50,000+ Rust learners in *The Rust Book Experiment*.
- Implemented a compiler plugin to automatically generate visualizations of Rust's static and dynamic semantics.

High-performance OPUS Framework | *C*

- Achieved a 4% (flop/cycle) speedup over existing implementations of the *Optimization by Particle swarm Using Surrogates* (OPUS), framework for black-box function optimization.

Multi-core Parallel Ripple Search | *C++*

- Achieved a 3.75% performance (flop/cycle) increase compared to existing implementations of the *Parallel Ripple Search* pathfinding algorithm.

Publications

A Grounded Conceptual Model for Ownership Types in Rust OOPSLA '23
Will Crichton, *Gavin Gray*, Shriram Krishnamurthi

Debugging Trait Errors as Logic Programs HATRA '23 (workshop)
Gavin Gray, Will Crichton