TIMOTHY MALONEY

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EDUCATION

Portland State University Jan 2020 - June 2022
Bsc Computer Science

Portland Community College Sept 2018 - Jan 2020
PSU Transfer

SUMMARY

Passionate and curious software engineer whose background demonstrates the ability to investigate and solve complex problems, make meaningful contributions to large projects, and add value to teams with diverse skill sets. Skilled in delivering well-researched, performant solutions that emphasize maintainability and modularity.

AREAS OF INTEREST

Compilers	Computer Networking	Systems Engineering	Image Rendering
Open Source Software	Linear Programming	Performance Analysis	Optimization

LANGUAGES & TECHNOLOGIES

Rust ● ● ● ●	C ● ● ● ○	C++ ● ● ○ ○	Python ● ● ○ ○
Java ● ● ○ ○	Bash ● ● ○ ○	Docker ● ○ ○ ○	Git ● ● ● ○

EXPERIENCE

Open Energy Solutions Feb 2022 - Present
Intern

- Ported internal C++ libs to Rust; utilizing asynchronous features to improve performance.
- Co-developed Rust micro-service for solving powergrid linear optimization problems remotely.
- Service uses nats to publish optimized power schedules to a set of subscribed on-grid devices.

Rust Compiler July 2021 - Dec 2021
Contributor

- Added support for inline assembly on IBM's s390x architecture.
- Automated toolchain linking for local builds.
- Investigated and proposed several different solutions to improve compilation time.

Ruperf June 2021 - Oct 2021
Lead Developer

- Performance analysis tool; emphasizes being informative and versatile.
- Developed a 'safe' Rust API for interacting with Linux performance event subsystem.
- Improved timer accuracy using inter-process communication.
- Added support for gathering cache-event statistics.

PSU Computer Action Team Aug 2020 - Aug 2021
Help Desk

- First of 2020-21 cohort to hack into the "catacombs"; an area for experimentation with hardware and hacking.
- Built a script for gathering information on PSU windows machines and users.
- Information such as who is logged onto what machine, what processes are they running, etc.

RESEARCH

The Simplex Method
Co-Author *May 2020*

Collaborative research paper on the history and application of the Simplex Method: a linear programming optimization algorithm. Linear programming problems are problems where an expression consisting of a set of variables must be either minimized or maximized according to constraints on those variables.