

Michael Goulet

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SOFTWARE ENGINEERING EXPERIENCE

RUST PROJECT | CONTRIBUTOR AND TEAM MEMBER

Remote | November 2021 -

- **Compiler contributor** - Avid contributor to the Rust project, and invited to be an official compiler contributor after 4 months of participation in the project. I volunteer on the pull request reviewers rotation for compiler PRs. My contributions to the compiler focus on:
 - Improving compiler stability (debugging and fixing Compiler crashes called ICEs).
 - Improving diagnostic error messages, pre-existing and implementing new helpful suggestions.
 - Fixing correctness and safety bugs in the compiler (called *unsoundness* in Rust).
 - Contributing to the stabilization of new Rust features such as Generic Associated Types.
- **Types Team member** - Contributing to the specification and implementation of Rust's type system, trait solver, and other related compiler components. As a types team member, I weigh in and vote on major changes to the type system.
- **Diagnostics Working Group member** - Working on improvements to Rust error messages and assorted diagnostics infrastructure, such as diagnostic message translations, both as a contributor and code reviewer.

META/FACEBOOK | PRODUCTION ENGINEER

San Francisco, CA | Oct 2019 -

- **Video Infrastructure**
 - Drove FFmpeg version upgrade, focusing on security and reliability improvements through migrating Facebook's internal FFmpeg fork to newer FFmpeg version.
 - Automated management of internal security and feature patches for critical video infrastructure to make upgrades easier in the future.
 - Led version upgrades of stale FFmpeg dependencies.
 - Authored health checker service to manage large ASIC (application-specific integrated circuit) hardware fleet for Video Infrastructure.
- **Storage Hardware**
 - Led performance and reliability testing of new hardware for critical storage services.
 - Drove server-side turn-up of new storage hardware for hardware qualification.
 - Participated in incident management for hard-drive related issues in the storage hardware fleet.
 - Worked in C++ modernization of disk management service critical to "cold" (long term) storage platform.
- **Internship 2018: Video Infrastructure** - Worked on testbed for visual match algorithm, used for unsafe content detection.
- **Internship 2017: POSIX Storage** - Worked on improvements to GlusterFS, focusing on performance bottlenecks in multi-tenant shared Gluster volumes.

EDUCATION

California Institute of Technology

Pasadena, CA | Jun 2019

BSC. COMPUTER SCIENCE AND ENGLISH

- Teaching assistant for "Introduction to Systems Programming", "Introduction to Operating Systems", "Introduction to Database Implementation", "Database Projects", and interpreters course.
- Authored an English thesis titled *Caught in the Middle: Homosexual Guilt, Liminality, and the role of the 'Novel of Identification' in Post-World War, Pre-Stonewall America* as part of the requirements for English double major.

SIDE PROJECTS

CHESHIRE

RUST-BASED TOY LANGUAGE COMPILER

A toy language compiler based off of the architecture of the Rust compiler.