Mário Feroldi Filho

Contact Information

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Education

Salesiano Auxilium Catholic University, Araçatuba, Brazil — **Feb 2015 – Dec 2019**
B.S., Computer Engineering
GPA: 3.45/4.0

Professional Experience

Grupo Salutem, *Software Engineer Intern* — **Jan 2019 – present**

- Developed a clinical appointment scheduling mobile application for the AME clinics with the Flutter SDK.
- Developed, maintained and contributed to the clinical and hospitalar management system.
- Trained interns to use the Github workflow in the development process.

Research Experience

Salesiano Auxilium, *Undergraduate Research* — **Aug 2018 - Jun 2019**

- Researched compiler optimizations in code generation for multiple processor architectures.
- Elaborated on instruction selection and the pattern matching and selection problem.
- Researched how LLVM, GCC and superoptimizers select instructions and generate quality code.

Salesiano Auxilium, *Undergraduate Thesis* — **Feb 2019 - Dec 2019**

- Researching the Regionalized Value State Dependency Graph (RVSDG) as an intermediate representation (IR) for multiple compiling stages.
- Implementing the compiler's back end as a pipeline of transformations on the RVSDG, turning it from higher to lower level at each pass.
- Avoiding duplication of effort when implementing common optimizations for different IRs, such as constant propagation.

Personal Projects

CCI: C11 Compiler Infrastructure — github.com/feroldi/cci

- Developing a compiler infrastructure to manipulate and compile C code.
- Meant as a personal research project to acquire hands-on experience on compiler engineering.
- Used C++17 for development, GoogleTest for unit tests, and CMake for the build system.

Ruke: A microkernel experiment — github.com/feroldi/ruke

- Created a microkernel for the x86 architecture.
- An experiment with the Mozilla's Rust programming language.
- Used Rust for most of the development, and x86 Assembly for the low-level bits.

Cognita: A flashcard system mobile application — github.com/feroldi/cognita

- A system to optimize the learning process of any subject by using the principle of spaced repetition.
- Implemented the Leitner system for the training sessions.
- Used the Flutter framework, and the SQLite embedded database.

Languages

Advanced English
Native Portuguese

Technical Skills

Bash, C, C++, C#, Python, Rust, Java, Git, x86 Assembly, Dart, GNU/Linux, POSIX, PostgreSQL, Flutter

Others

Top 10% on the C++ tag on Stack Overflow	**since Jan 2019**
Placed 348th out of 1156 at the XXIII Maratona SBC First Phase	**Sep 2018**
Undergraduate Teaching Assistant for Compilers	**Aug 2018**
Gave a presentation to my class on C++14 and its features	**Aug 2016**
Undergraduate Teaching Assistant for Programming Logic and Algorithms	**Jan 2015**