

## Experience

### Software Engineer — *Arm, Manchester*

Sep 2020 — Present

Internal promotion. LLVM compiler engineering (C/C++).

- **Upstream SVE enablement** — building and enhancing LLVM support for the Arm SVE architecture feature. Some work available on [the LLVM Phabricator](#).
- **Downstream compiler engineering** — work on Arm Compiler for Linux and surrounding CI/CD infrastructure and tooling.
- **Release engineering** — developed Rust tooling to automate reducing our downstream delta by handling merge conflicts.

### Graduate Software Engineer — *Arm, Manchester*

Sep 2019 — Sep 2020

Completed four successful graduate rotations with:

- **Arm Compiler for Linux Team** — tracked and alleviated multiple performance regressions in the Arm Compiler for Linux, extended functionality of llvm-opt-report, developed helper tools for comparing assembly code outputs to highlight performance issues, and more.
- **Arm Debugger Team** — designed and developed internal reservation system for testing low-cost probes (ULINKpro), worked low-level work on hardware debugger firmware, worked on a web dashboard for DSTREAM to show key statistics and controls at a glance, and more.
- **Arm Performance Libraries Team** — designed and implemented high-performance C++ implementations of BLAS routines used in scientific computing, alongside extensive work on related benchmark/test infrastructure, and more.
- **Arm Prototyping Team** — working on Parsec and surrounding projects in the open-source Rust community, including the Rust standard library, rust-bindgen, rust-psa-crypto, picky, and more. Some work available on GitHub.

### Software Engineering Intern — *Arm, Manchester*

Jun 2018 — Oct 2018

Worked as a software engineering intern at Arm on the HPC compilers team. Extensive work with build systems, compilers, and continuous integration.

## Education

### B.Sc. Computer Science, First-Class Honours (Cum Laude)

2016 — 2019

*University of Birmingham*

Graduated first-class honours (Cum Laude) with a final grade of 86.18 (GPA 4.25, student rank no. 2 out of 113).

- 2017 winner of *Best Computer Science Student* award.
- 2017 winner of *Tazmmal Husein Memorial Award* for student excellence in computer science.
- 2018 winner of *Best Computer Science Student* award.

## Skills

### Tools

**Continuous Integration/Deployment** — Artifactory, GitHub CI, Jenkins  
**Revision Control** — Git, libgit2  
**Linux/UNIX** — Scripting, software configuration, system administration and maintenance, philosophies and principles

### Languages

**Proficient** — C/C++, Python, Rust, Shell Scripting  
**Familiar** — Java, VimScript  
**Working Knowledge** — Groovy, Haskell, MATLAB, SQL, JavaScript, OCaml  
**Web** — HTML, CSS, Bootstrap

## Projects

**Open Source Contributions** — Contributions to various open-source projects, including Parsec, Rust, rust-psa-crypto, rust-bindgen, and more.

**Final University Project** — Developed a user-friendly, transpiled functional programming language, affectionately named Funky. The project delivered a transpiler for converting source files written in Funky to other target languages and a REPL allowing the user to evaluate Funky code interactively. Key features include static typing, lazy evaluation, pattern matching, and multiple code generators.