Edmund Goodman

egoodman3141@gmail.com | linkedin.com/in/EdmundGoodman | github.com/EdmundGoodman

Education

University of Cambridge Oct. 2024 – Jun. 2025
Advanced Computer Science MPhil *Cambridge, UK*

University of Warwick Sept. 2020 – Jun. 2024
Computer Science BSc (Hons) with intercalated year; First Class Honours *Coventry & St Albans, UK*

The Perse Sixth Form Sept. 2018 – Jun. 2020
Academic scholarship; A-levels in Maths, Further Maths, Physics & Computer Science *Cambridge, UK*

Employment

Apple Inc. | CAD Design Verification Intern Jun. 2024 – Sept. 2024
- Summer internship at the UK Design Centre for Apple Silicon.
- Built software tools and infrastructure for the design and design verification of hardware.

Apple Inc. | CAD Design Verification Industrial Placement Jul. 2022 – Jun. 2023
- Intercalated year in industry at the UK Design Centre for Apple Silicon.
- Built software tools and infrastructure for the design and design verification of hardware.

HUBER+SUHNER Polatis | Software Engineering Intern Jul. 2020 – Sept. 2020
- Performed a major version bump of Python for fibre-optic switch test harnesses.
- Refactored the VBA backend of a corporate planning Excel spreadsheet.

Experience

University of Warwick Computing Society | Academic Coordinator Sept. 2023 – Jun. 2024
- Responsible for organising and delivering technical and industry talks, introductory workshops, and revision sessions – including `git` Good, CS260 algorithms, and award-winning talk The Mathematics of Lasagne.

University of Warwick iGEM team | iGEM Team Member Feb. 2021 – Sept. 2021
- Led software for the international gold medal winning Warwick team for the iGEM synthetic biology competition.
- Architected and implemented a stochastic model of the spread of antibiotic resistant pathogens which was nominated for best model (2021.igem.org/Team:Warwick/Model), and created the wiki website showcasing the team's work.

Projects

Bachelor's Thesis Sept. 2023 – Apr. 2024
- Wrote a dissertation titled "Assessing the suitability of Rust for performant and productive implementations of HPC codebases", achieving a High First Class grade of 87%.
- Built HPC MultiBench "A tool to run, aggregate, and analyse metrics about HPC batch compute jobs via Slurm from a YAML format", and used it to run performance experiments on a HPC mini-app translated from C++ to Rust.
- Accepted to present a short-format talk derived from the dissertation as part of the P3HPC workshop.

MiniC Compiler Sept. 2023 – Dec. 2023
- Implemented an LLVM-backed compiler in C++ for a subset of the C language, achieving 98% – the highest mark in the cohort. Transformed provided grammar to $LL(k)$, hand-crafted recursive descent parser into custom AST data structure, and code-generated into LLVM IR with a focus on both correctness and ergonomic error messages.
- Created open-source extension to provided testing infrastructure, including a novel approach to test error messages.

Technical Skills

Languages : Python, Rust, Kotlin, Bash/Zsh, SQL, Java, C, C++, Haskell, Matlab, HTML & CSS, TypeScript, Prolog

Technologies : Git, Kubernetes, Docker, TeamCity, GitLab CI, GNU Make, Cadence vManager, Cadence Indago, React, OpenMP, MPI, Slurm, Apache Hive, Apache HBase, PostgreSQL, Rocky Linux, EndeavourOS, Qt, Textual, Ruff, MyPy, FastAPI, Pydantic, LaTeX, Markdown

Project Management : Agile, Kanban, Scrumban, Jira, Confluence, GitLab issues