Edmund Goodman

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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, LLVM, PostgreSQL, Rocky Linux, EndeavourOS, Qt, Textual, Ruff, MyPy, FastAPI, Pydantic, LaTeX, Markdown

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