

Summary

Computer Engineering graduate from the University of Cambridge with expertise in performance optimisation and GPU development. Experienced in Python and C++ programming with background in complex systems design and implementation. Seeking to apply my quantitative analysis skills to a financial software role.

Education

University of Cambridge

Sep 2019 – 2023

- **MEng** Computer Engineering (Merit) | relevant modules: Statistical Signal Analysis, Software Engineering and Design, Deep Learning and Structured Data, Computer Systems, Strategic Management
- Final year project: Nanotechnology research of molecular devices as alternative transistor technology
- **Bachelor of Arts** Engineering (2.1) | relevant modules: Statistical Signal Processing, Medical Imaging and 3D Computer Graphics, Mathematical Methods, Information Theory & Coding, Modelling risk

Bishop Wordsworth's Grammar School:

Sep 2012 - 2019

- **A-levels** : Further mathematics A* (95%), Mathematics A* (97%), Physics A*, Chemistry A*

Technical Skills

Languages: Python (advanced), C++ (intermediate), JavaScript, TCL, SystemVerilog, HTML, CSS, SQL

Tools: Git, Perforce, Jenkins (CI/CD), PyPI, MongoDB, React, Node.js

Other: Linux, Project Management, Agile Methodology, REST API development

Professional Experience

Imagination Technologies - Hardware Engineer 2

Nov 2024 - Present

- Developed C++ models for subprocessor and microtile modules aimed at AI acceleration for our GPU
- Co-lead development and maintenance of Python internal tools across the team; developing a unified framework, implementing automated testing, maintaining CI/CD, and managing our internal PyPI repository
- Led technical interviews for internship positions

Imagination Technologies – Graduate Datapath Engineer

Sep 2023 – Nov 2024

- Developed and deployed critical Python packages for internal use, improving scripting efficiency by >20%
- Led the migration of a legacy Perl codebase to Python, going beyond feature parity with improvements.
- Designed and debugged C++ models of GPU sub-module components. Improvements to standard procedures led to a reduction of up to 8% in verification time.
- Led verification on GPU sub-modules in an Agile team of 12.
- Identified and resolved 2 common mode bugs through additional testing techniques
- Utilized Git for version control and Jenkins for CI/CD pipelines in software development workflows.

Imagination Technologies - Datapath Engineer Summer Placement

Jul 2022 - Sep 2022

- Researched data storage techniques for the complex arithmetic logic unit (CoALU).
- Implemented wavelet compression algorithm in Python, reducing the area of lookup tables by up to 10%.

Projects

Rental Property Hunting Programme

- Designed, built, and published a Python package utilising Google APIs, NLP, and Web Search tools to automate data collection and processing.
- Published as SiteToSheet with documentation and automated workflows

Stock Analysis Web App

- Developing a web app using MongoDB, Express.js, React & Node.js (MERN) stack for stock predictions.
- Integrated Alpha Vantage API to retrieve financial data & implemented ARMA for data analysis.

Floating Point Multi-Tool

- Created an optimised web application for variable-width floating-point conversions using HTML, JavaScript, and CSS

Organisations and Awards

- **Cambridge University Drone Society (CUDS)** - Social Secretary October 2020 - July 2023
- **Magdalene College Boat Club** - Lower Boats Captain October 2020 - July 2021
- **Electronics Computer Science** Course - Southampton University July 2018
- **Arkwright Scholar** – sponsored by Stannah Lifts 2017
- **Gold Award** Intermediate Maths Challenge 2017
- **Gold Award** BPhO- Physics Challenge 2017