

Summary

Computer Engineering graduate from the University of Cambridge with strong Python skills and experience developing scalable, data-driven programmes. Seeking a software engineering role to apply my expertise in Python, C++, web technologies and verification.

Education

University of Cambridge

September 2019 – 2023

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

Bishop Wordsworth's Grammar School:

September 2012 - 2019

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

Technical Skills

Languages: Python (proficient), C++ (intermediate), TCL, JavaScript, SystemVerilog, Go (Beginner)

Tools: Git, Perforce, Jenkins (CI/CD), PyPI, Docker

Other: Linux, Project Management, Agile Methodology, Google API's, RESTful API's

Professional Experience

Imagination Technologies – Graduate Datapath Engineer

September 2023 – Present

- 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 common 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

2022 July - September

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

Projects

Rental Hunting Programme

- Designed, built and implemented a Python package utilising Google APIs, NLP and Web Search tools to automate data collection and processing. Published to PyPI as SiteToSheet.
- Provides the ability to garner information like time to work, property prices & more.
- Processed and updated Google Sheets in under 1 second per address, with rate limiting.

Stock Analysis Web App

- Developed a web app using MongoDB, Express.js, React & Node.js (MERN) stack for stock predictions.
- Integrated Alpha vantage API to retrieve financial data and implemented Kalman filtering for data analysis.

Soft Robotic Manipulator Control System

- Led and presented team-based research project testing model-based vs model-free machine learning.
- Developed software for system identification and neural networks via Matlab.
- Utilized computer vision with OpenCL for moving object detection.

Floating Point 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