Jonathan Shaw

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Summary

I am a recent engineering graduate with a strong foundation in computer systems and a passion for software development. Seeking a challenging Software Engineer position to leverage my skills in Python, C++, and web technologies, along with my experience in verification, to contribute to innovative software projects.

Education

University of Cambridge September 2019 – 2023

- **MEng** Computer Engineering (Merit) | key modules include Software Engineering and Design, Computer Systems, Deep Learning and Structure Data, Data Vision, Advanced Robotics
- **Bachelor of Arts** Engineering (2.1) | key modules include Statistical Signal Analysis, Medical Imaging and 3D Computer Graphics, Mathematical Methods
- 4th year project: Molecular Devices: Researching alternative transistor technology

Bishop Wordsworth's Grammer School:

- **A level's :** Further mathematics A* (95%), Mathematics A* (97%), Physics A*, Chemistry A*

Technical Skills

Languages: Python, C++**,** TCL, Javascript, HTML, CSS, SystemVerilog
Tools: Git, Perforce, Jenkins (CI/CD), MATLAB, PyPi
Other: Linux, Project Management, Agile Methodology, Google API's

Professional Experience

Imagination Technologies – Graduate Datapath Engineer September 2023 – Present

- Lead verification on multiple GPU sub-modules, working in a team of 12. This required test benches for Formal Verification with both Synopsys and Cadence Software and subsequent debugging with designers.
- Implemented a team-wide change in internal scripting methodology to Python packages, now utilising an internal PyPi repository. Converted and improved our previous verification scripting tool from Perl to Python which I am now in charge of maintaining.
- Created multiple C++ models for verification purposes, updating guidelines improving simulation and cutting verification speeds by up to 8% through datatype optimisations.

Imagination Technologies - Datapath Engineer Summer Placement 2022 July - September

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

Projects

Rental Hunting Programme

- Developed a Python package utilizing Google APIs, NLP and Web Search tools to automate data collection for rental properties. Processed and updated Google Sheets in around 1 second per address

Soft Robotic Manipulator Control System

- A team-based research project to test model-based vs model-free learning for control of a soft pendulum.
- Part of software development for system identification and neural network 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
- Implemented to assist team members with quick conversions and hand calculations

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