

Felix Bowyer

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PROJECTS

COURSEWORK

MENTORME

React + ExpressJS

Software engineering group project to match new employees to mentors at a major bank. Developed matching algorithm using ML techniques, and other areas of custom API.

SCRATCH CLONE

Haskell

A clone of Scratch, built with Google's Blockly API. Parses and executes instructions represented in XML using functional programming techniques.

SELF-BALANCING ROBOT

MATLAB / Simulink

Programmed an Arduino-controlled robot to self balance using a PID control system. Group project, completed successfully to a 1 week deadline.

CONJUGATE GRADIENT SOLVER

C

Optimisation of vector mathematics based program using Intel SSE/AVX vector intrinsics, OpenMP threading and GCC flags. Achieved 20.6x speedup.

PACKET CAPTURE SOFTWARE

C

Multithreaded packet capture software with automatic network attack detection, using low-level packet data analysis. Thread pool implemented for high data throughput applications.

SIEGE

Verilog (FPGA)

Game made for the Nexys A7 FPGA board using Verilog, built on a custom built VGA driver. Low-level techniques used for advanced physics simulation.

PERSONAL

MINECRAFT PLUGIN

Java

Game mod created for a charity event using Maven. Raised over £500 in 2 hours from donations processed by the plugin.

3D PRINTING

Built and modified a DIY 3D printer, controlled with a RepRap PCB over USB, assembled from 3D printed parts.

EDUCATION

UNIVERSITY OF WARWICK

MENG (HONS) COMPUTER SYSTEMS ENGINEERING

2020 - Present | Coventry, UK

First year: 73.4% (1st class).

Second year: 75.9% (1st class).

THE COMMONWEAL SCHOOL

2013 - 2020 | Swindon, UK

A*A*A(A) at A level, in Computer Science, Physics, Mathematics, and Further Mathematics.

5 9s, 3 8s, 2 7s at GCSE, and A FSMQ Additional Mathematics.

ROLES

OPTIVER BV | SOFTWARE ENGINEERING INTERN

Summer 2022 | Amsterdam, NL

- Working in Optiver's Core Systems team to make optimisations on key trading data in a large C++ code base.
- Used Facebook's ZStd compression library to improve throughput on large volumes of data packets using dictionary compression.

VOXA LIMITED | DEVELOPER

2021 | Coventry, UK

- Used React and Tailwind CSS to create Semlink, a web app to connect you to seminar and coursemates at university.
- Managed integration with Google's Cloud Firestore database.

NATIONWIDE | WORK EXPERIENCE INTERN

2018 | Swindon, UK

- Shadowed several roles in Nationwide's security department.
- Worked with penetration testers, certificate management, update rollout teams, and security experts.

ACHIEVEMENTS

2021-22 | Society Technical Officer

Became Technical Officer for Warwick Computing Society and Warwick Minecraft Society, managing and maintaining Linux servers.

2019 | UK Senior Mathematical Challenge

Achieved a gold certificate, awarded to the top 10% of participants.

2018 | TCS Oxford Computing Challenge

Competed nationally at Hertford College, University of Oxford. Achieved a distinction, awarded to the top 2.5% of participants.

2018 | Cyber Discovery

National competition ran by HM Government. Solved a series of cyber security challenges and invited to the next stage.

<https://github.com/efbicief/>

<https://fbcf.xyz/>

References available on request.