Edward **Qian**

COMPUTER SCIENCE · CASUAL ACADEMIC · UNIVERSITY OF NEW SOUTH WALES

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Education

University of New South Wales (UNSW)   *Sydney, AU*

BACHELOR OF SCIENCE (COMPUTER SCIENCE)   *Feb. 2021 - Dec. 2024*

Distinction Grade, 83.786 WAM

University Experience

University of New South Wales (UNSW)   *Sydney, AU*

CASUAL ACADEMIC   *Sep. 2022 - Present*

- Tutor for Software Engineering Fundamentals (COMP1531)
  Teaching classes of 20+ students Git, JavaScript, dynamic and static verification, HTTP servers and verification

UNSW Computer Science and Engineering Society (CSESoc)   *Sydney, AU*

STRUCTS.SH PROJECT DIRECTOR, MEMBER   *Jan. 2022 - Present*

- Leading team of 11 members alongside 2 co-leads to build a new iteration of the project
- An application for compiling, debugging and visualising arbitrary user C code
- Designing the software architecture including an interface with GDB via a Python API server, a force-directed graph visualiser using d3-force

TRAINING PROGRAM LEAD   *May 2022 - Dec. 2022*

- Taught a group of 3 trainees about the MERN stack (MongoDB, Express, React, Node)
- Guided the group to build and showcase a full-stack application for users to create profiles and share their interests
- Source code hosted at ⬛GitHub, website deployed at `https://identifun.onrender.com/`

Technical Skills

Languages	Python, Java, C, Shell, SQL, JavaScript/TypeScript, HTML, CSS
Technologies	React.js, Express.js, Node.js, MongoDB, Jest, Flask, Psycopg2
Dev Tools	Unix/Linux, Git, Docker

Projects

Structs.sh   🌐*Website*

WEBSITE   ⬛*GitHub*

- Redesigned the User Interface of the website to be more accessible and intuitive using Figma, React and Material UI
- Improved and created new visualisations for Binary Search Trees and Sorting Algorithms using SVG.js to assist learning of data structures

Online Compiler   🌐*Website*

WEBSITE   ⬛*GitHub*

- Built a website interface with GCC using React.js and Tailwind CSS
- Created an Express API route to run GCC as a subprocess to compile user code and send program output as the response
- Deployed the API using a Docker Container with Node and GCC installed

BitNurture

BROWSER EXTENSION   ⬛*GitHub*

- Built a browser extension for a password manager using React.js and Material UI
- Created backend Python Flask API routes to allow users to authenticate as well as create, edit and retrieve vaults
- Securely encrypted user vaults using an AES key derived from the user's master password, allowing sensitive data to be communicated safely over an unencrypted connection