

BENSON CHOW

SOFTWARE DEVELOPER & TECHNOLOGY ENTHUSIAST

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MISSION SUMMARY

Passionate problem solver with a focus in computer science. Interested in computer science, 3D printing and high-fidelity audio systems. Specialising in system administration, backend development and local LLM.

WORK EXPERIENCE

► DATA SCIENCE INTERN

2024, July - September

ARUP

- Automated processing and formatting of Hong Kong Annual Traffic Census data, reducing manual workload and errors.
- Developed a PyQt6-based Windows application with a user-friendly interface for data input/ selection and tool execution.
- Implemented six specialized tools to convert and validate custom CDL, A/B, COR, and XDT files into standardized Excel reports.
- Leveraged multithreading to maintain responsive UI during intensive data processing tasks.
- Packaged the application as a standalone .exe using PyInstaller for seamless distribution to non-technical staff.

► SOFTWARE ENGINEERING INTERN

2025, June - July

AI Lab Limited

- Researched the ESP32 micro controller for a teaching curriculum, creating a DIY security camera as a demonstration project.
- Developed multiple web applications using Flask, Python, JavaScript, and HTML.

► SOFTWARE ENGINEERING INTERN

2025, July - September

drow.cloud

- Researched the finetuning of an AI powered optical character recognition (OCR) program for document scanning.
- Developed a document management system that utilizes OCR, vector databases for search, and local AI-driven document analysis, utilizing a GNU/ Linux system with three RTX Ada 5880 GPUs.

[Download Internship Certificate](#)

► REMOTE SOFTWARE ENGINEER

2025, September - current

drow.cloud

- Migrated the document management system to a Windows system with a GTX 5070ti, utilising WSL2, and delivered the application to a paying user.
- Working remotely, I installed an OpenSSH server on the Windows system, development is through an SSH connection through a WireGuard VPN.
- Added features like syncing the vector database to a Windows directory, AJAX requests to the backend for local AI document analysis and ability to select different LLM models for analysis.
- On a Apple Mac Studio M3 Ultra with 512GB of unified memory, I set up Surfsense via manual installation.
- I first set up the OpenSSH server on macOS, installing a VPN solution, configuring Redis, PostgreSQL, Docing and other backend services.
- Setting up different .plist files to make the services start automatically on boot with correct environment variables.

EDUCATION

► A-Level

2022 - 2024

Malvern College

Relevant Coursework: Campus Interactive Map

- Developed an interactive campus map using Leaflet.js and satellite imagery to display paths, entrances, parking, and stairs.
- Implemented Dijkstra's Algorithm for shortest path calculation with filters (e.g., avoiding stairs).
- Created an event reporting system with MongoDB, role-based user accounts, and caching for efficient data access.

► COMPUTER SCIENCE BACHELOR

2024 - current

University of York

TECHNICAL KNOWLEDGE

► PROGRAMMING LANGUAGES

Python Bash Java JavaScript C

► WEB TECHNOLOGIES

HTML5 CSS3 Jinja2 Flask Bootstrap Tailwind

► DATABASE TECHNOLOGIES

MongoDB Qdrant SQLite

► DEVOPS

Git Docker GitHub Actions GNU/ Linux macOS Windows AWS

► DESIGN & FABRICATION

Fusion 360 3D Printing FreeCAD

► AI tools

PPOCR Ollama IBM docling

FEATURED PROJECTS

See more about the projects at my [website's projects page](#).

► home IT upgrade

June 2025 - September 2025

Upgrades to my home IT equipment and systems in the summer of 2025

Tags: Hardware, Networking

► home 3D printing setup

July 2025 - September 2025

A £290 3D printing setup that can be controlled anywhere in the world.

Tags: 3D printing, Networking

► Malvern Maps

December 2022 - December 2023

An interactive map of Malvern College

Tags: Multi languages, Web Development, Flask

[GitHub Repo](#)

► Compyt the dorm server

January 2025 - May 2025

NAS, media streaming server and general server setup in my Y1 dorm at University of York

Tags: Networking, 3D Printing, Hardware, Python

[GitHub Repo](#)

► ATC tools

July 2024 - September 2024

Automated data picking of Hong Kong's Annual Traffic Census

Tags: Python, PyQt, Pandas, Pyinstaller

► Dorm 3D Printing setup

October 2024 - April 2025

3D printing setup in my Y1 dorm at University of York

Tags: 3D Printing