Joshua Chua

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Professional Summary

A current student entering the computer science and electrical field who understands solution-based coding in multiple languages, experience with AI developing tools, and electrical hardware design. Looking for a team with intriguing projects, dedicated team and challenging roles in Melbourne to gain greater experience and develop exciting technological solutions.

Education

Monash University, B.S. of Engineering (Honours) - Electrical Engineering — Feb 2023 – Nov 2027

- **Coursework:** Digital systems, Electrical circuits, Computer systems

Monash University, B.S. of Computer Science — Feb 2024 – Nov 2027

- **Coursework:** Object-oriented design, Programming paradigms, Advanced data structures and algorithms, Parallel computing

Experience

MissionMed Software Intern, — July 2024 – Sep 2024

- Built an automated Discord and web scraper system for real-time UCAT result monitoring, improving applicant estimation accuracy.
- Assisted in tuning and training prompts for AI generated interview style questions. Explored image generation for visual aid questions.

Monash AIM Project lead, — Feb 2025 – Sep 2025

- Led a team of 8 in developing a novel data distillation pipeline for chest X-ray datasets ($\sim$ 120,000 images), leveraging BioViLT teacher models to generate synthetic datasets that are 95% smaller while retaining 90% of diagnostic accuracy.
- Optimized lightweight CNN student models to achieve a 6.2x reduction in training time and 80% lower computational cost compared to models trained on the full dataset.
- Utilized PyTorch, HuggingFace Transformers, and distributed A100 GPU clusters for large-scale embedding extraction and training.

Projects

AI Trained Sentimental Analysis Trading Tool

- Developed a script that runs alongside user's trading account allowing automatic trading on 10 hour time intervals based on user-defined sentiment of the NASDAQ retrieved from Reddit
- An initial data set was retrieved from existing Reddit posts and PyTorch was utilised to train a sentiment classifier model.
- Tools Used: Python, IBKR TradeWorkshop

ClimbLog API Assistant

- Built and designed a universal logbook for users to track a variety of climbs derived from various standardised boards
- Features include global sync, manual logs, progression tracking and recommended material for user's based on their current climbing grade
- Tools Used: Python, SQL

Audio Recorder Device

- Built an audio recorder, providing features of audio recoding, playback, and allowing user's to manipulate speed of playback and control start/stop points of recorded audio
- Device was programmed through C++, with data processing through python integrated with STM32 hardware for suceessful implementation
- Tools Used: Python, C++, Quartus, MatLab

Technologies

Languages: C++, C, Python, JavaScript, MatLab

Technologies: PyTorch, HuggingFace Transformers, CUDA, TensorBoard, Google Cloud, AWS S3, Microsoft SQL Server, GitHub, PyCharm, Quartus, SolidWorks