Vincent Pham

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SUMMARY

Solutions-motivated Computer Engineer from UNSW with experience developing AI solutions and web applications.

SKILLS

- Python | C | C++ | Java | Node.js | Express.js | Flask | PyTorch | Unit Testing | PostgreSQL
- JavaScript | TypeScript | HTML | CSS | React.js | Jest | Axios | Zustand | OAuth 2.0
- Git | Agile | VHDL | MIPs Assembly

EXPERIENCE

Casual Academic *February* 2022 – April 2022
University of New South Wales

- Created bi-weekly lecture summaries for 624 students in the Software Engineering Fundamentals course in collaboration with the Equitable Learning Services team at UNSW.
- Topics included: RESTful API, Testing Fundamentals, Git, Agile, Python, Software Development Lifecycle, CI/CD.

PROJECTS

Occlusion Aware Engagement Detection
https://github.com/teddyld/occlusion-aware-engagement-detection | Python | PyTorch | Computer Vision
Occlusion-aware Computer Vision methods for facial expression and engagement detection.

- Demonstrated a 5.12% accuracy improvement on a challenging "in-the-wild" facial-expression recognition dataset by creating occlusion-aware data augmentation methods.
- Delivered technical Thesis reports and presentations, alongside liaising with a supervisor in weekly standups.

Pomodoro and Trello Web-application
https://github.com/teddyld/doro | https://doro-flax.vercel.app/ | PostgreSQL | React.js | Node.js | Express.js
A pomodoro web-app integrated with a Trello board for project and time management

- Created a web-application hosted on Vercel. Frontend programmed in TypeScript using React.js, NextUI components, Tailwind for CSS styling and Zustand to manage global state.
- Backend uses Node.js with Express.js interfacing with a PostgreSQL database using RESTful API. Unit tests for components are implemented with Jest. User authorization implemented using JWT and OAuth 2.0, allowing Google sign-in.
- Allows users to start Pomodoro sessions, take breaks, and track their activity. A Trello board allows drag-and-drop functionality to create and manage lists of tasks inside of named boards.

Image Style Transfer
https://github.com/teddyld/image-style-transfer | Python | PyTorch | Computer Vision
Worked with a team of 5 to compare traditional CNNs and Generative Networks for Image Style Transfer.

- Achieved 100% of available marks by delivering a technical report and presentation communicating detailed data analysis and discussion on findings to meet a three-week deadline.
- Provided technical support to team members unfamiliar with PyTorch used to implement network training and evaluation for four open-source IST architectures.

Hardware Accelerated kNN algorithm
https://github.com/teddyld/hardware-accelerated-knn | C | C++ | VHDL
Worked with a team of 4 to accelerate the k-nearest neighbours algorithm on hardware.

- Achieved a 100x speedup in execution time by developing an optimized kNN algorithm on handwriting classification within a 4-week deadline.
- Integrated test benches in C to stream testing bytes to hardware by implementing software to hardware communication layer.

EDUCATION

Bachelor of Engineering (Computer Engineering) Present (Exp. Graduation Winter 2025)
University of New South Wales

- WAM: High Distinction.