

Show Wai Yan

showwaiyan555@gmail.com | [LinkedIn](#) | [GitHub](#)

Myanmar citizen, Malaysia Student Pass, Subang Jaya, Selangor, Malaysia

Education

- Bachelor of Computer Science, Swinburne University of Technology Expected July 2027
- CGPA 3.79; Excellence Award (2026), Merit Award (2026), President's Honor Roll (2024)

Work Experience

Computer Science Instructor, Code, Tech and Learn Academy, Yangon

Dec 2021 – Jul 2022

- Taught Python and basic object-oriented programming to 20–30 students aged 10–15, so beginners could write and debug their own programs.
- Adapted the syllabus with the founder and another instructor, separating syntax from problem solving so students were not overwhelmed.
- Co-organized and judged a 3-day Pygame hackathon where 13 teams of 3–4 students each built a working game.

Projects

Bare-Metal STM32 Firmware (C, ARM Cortex-M4, STM32F401, GCC, OpenOCD)

- Wrote C firmware for an STM32F401 (ARM Cortex-M4) with no vendor libraries, including startup code, vector table, and GNU linker script, so I controlled how the board boots and runs.
- Configured GPIO, EXTI, and NVIC interrupts so a button press runs a handler instead of polling, tested on a real STM32F401 board.
- Shared a counter between the interrupt handler and main loop using volatile and short interrupt-disabled sections, preventing race conditions so no counts are lost.

Operating System Kernel Course Project (EGOS-2000) (C, RISC-V, QEMU, Docker)

- Implemented a 5-level multilevel feedback queue (MLFQ) process scheduler in a RISC-V kernel in C, so the shell stays responsive while long jobs run.
- Added exception handling and Physical Memory Protection (PMP), tested with two crashing programs, so one bad program cannot crash the OS.

C++ Data Structures Library (C++, templates, smart pointers)

- Implemented a templated C++ stack, linked lists, and N-ary tree with iterators and smart pointers.

Route Finding and Traffic Prediction (Python, A, Pygame, unit testing, team lead)*

- Led a team of 4 by designing the architecture, assigning work, reviewing pull requests, and enforcing unit and integration tests, delivering on time.
- Built an A* route finder and Pygame map highlighting the fastest of 3 routes, using traffic predictions from teammates' LSTM, GRU, and random forest models.

Email Spam Detection (Python, scikit-learn, unit testing, Machine Learning (ML))

- Built a Python text preprocessing class with unit test cases, so models learn from clean text.
- Trained a Complement Naive Bayes spam classifier reaching 97.8% accuracy and F1 score.

Technical Skills

- **Languages:** C, C++, Python, TypeScript, JavaScript
- **Frameworks and tools:** STM32, scikit-learn, Linux, Git, GitHub, Docker, OpenOCD, pytest, Agile