

# Lai Man To

## Software Engineer Intern

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### SUMMARY

Computer Engineering & AI student at HKUST with experience across full-stack development, C++ systems programming, embedded firmware, and AI-augmented workflows.

### EDUCATION

#### **BEng Computer Engineering & AI** Expected 2027

*The Hong Kong University of Science and Technology (HKUST)*

- Relevant: Data Structures, AI Foundations, Robotics, Embedded Systems

#### **HKDSE** Class of 2023

*TWGHs Wong Fut Nam College*

- Level 5\* English (Speaking); Level 5 English, Mathematics, Physics

### SOFTWARE PROJECTS

#### **AI Link-Saver & Summarizer (Full-Stack)**

*JavaScript · LLM API · Cloud DB*

- Cross-platform productivity app summarising URLs via LLM; cloud-synced database across mobile and desktop
- Handles 100+ daily links; debugged cross-platform fetching issues including social media metadata

#### **C++ PVE Combat Engine**

*C++ · OOP · State Machines*

- Terminal PvE game from scratch: modular OOP, dynamic enemy scaling, 10+ difficulty levels, no external libraries
- Custom state-machine for turn-based combat; optimised memory management for resource-constrained environments

#### **Python Turtle Vector Renderer**

*Python · Computational Geometry*

- Custom interpreter mapping 500+ path nodes to vector paths; automated scaling for resolution independence

#### **AI-Generated Image Detector (CNN)**

*Python · TensorFlow*

- Deep CNN achieving 94% validation accuracy on 5,000+ samples; F1-score and confusion matrix evaluation

#### **Precision Line-Follower (Arduino)**

*C++ · Arduino IDE · IR Sensors*

- Embedded C++ firmware with PID-inspired motor logic; 90% precision on sharp-turn tracks

### EXPERIENCE

#### **Vice President & Team Captain** 2024 – Present

*HKUST Sport Climbing Society*

- Directed operations for 200+ members; 25% growth; maintained Git-managed website
- Secured 5 corporate sponsorships; presented to HKUST Sports Dept and LCSD

#### **Climbing Coach & Counter Staff** 2024 – Present

*Lead Climbing Gyms*

- Managed 300+ entry client database; delivered training programmes for 20+ students

### CERTIFICATIONS

Interactivity with JavaScript — University of Michigan (2026)

Introduction to HTML5 & CSS3 — University of Michigan (2026)

AWS Educate Machine Learning Foundations — Amazon Web Services (2025)

### SKILLS

**Programming:** Python, C++, JavaScript, HTML5/CSS3

**Tools:** Git, Docker, PostgreSQL, Arduino IDE, Figma, n8n, Ollama, TensorFlow

**Concepts:** OOP, State Machines, Embedded Firmware, AI-Augmented Development

**Languages:** English (native), Cantonese (native), Mandarin (native), Hakka (intermediate)