

DUAN Zihang Raymond

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Computer Engineering student passionate about AI, IoT, and Full-Stack Software Development.

Education

Hong Kong University of Science and Technology (HKUST) **Sep 2026 – Present (Incoming)**
MSc in Information Technology

Hong Kong University of Science and Technology (HKUST) **Sep 2022 – Jun 2026**
BEng in Computer Engineering — Second Class Upper Honors

Coursework: AI & Vision (Deep Learning in CV, ML, AI Fundamentals), Systems & Networks (OS, Embedded Systems, Networks), Software Engineering (OOP, Mobile App Dev, Web Computing), Architecture & Multimedia

Work Experience

Intelli Global Corporation **Jun 2025 – May 2026**
Intern *Kwun Tong, Hong Kong*

- **Data Integrity & Automation:** Engineered data processing scripts using Python (NumPy) to transform, clean, and validate large-scale datasets and raw CSV files.
- **Quality Assurance & Testing:** Identified, reported, and verified bug fixes; conducted rigorous regression testing cycles to ensure system stability following new feature deployments.
- **Documentation & UI/UX:** Managed system specifications and manuals; partnered with Project Managers to provide UI/UX improvement suggestions for smart residential solutions.
- **System Deployment & BIM:** Deployed openMAINT using Docker containers on Windows; utilized Revit for model modifications for smart-building architectural requirements.

Featured Projects

MTR Tracker Lite — *React Native, Expo, REST APIs, Geolocation*

- Built a streamlined React Native mobile app for real-time Hong Kong MTR tracking, integrating GPS and MTR APIs.

Muse Dash Web Game — *Node.js, Express, Socket.io, Bcrypt*

- Built a real-time backend server framework with bidirectional event-based communication and secure user authentication.

Library Management System — *OOP, UML, Java*

- Designed comprehensive software architecture and robust use-case specifications for user roles and access control.

AI Mini-AutoPilot — *Python, PyTorch, CNN/RNN, Computer Vision*

- Developed an autonomous driving/navigation model and advanced neural networks including LSTMs and GANs.

Fruit Ripeness Classification — *Python, Transfer Learning, EfficientNet, YOLO*

- Trained a transfer learning model (EfficientNet-B0) to classify fruit ripeness stages with 93% test accuracy.

Tiny Smart Home — *ESP32, Home Assistant, IoT, Ollama AI*

- Developed a smart home system using ESP32 boards and sensors; designed automation scripts based on sensor data.

Technical Skills

Languages: Python, C/C++, JavaScript/Node.js, HTML/CSS, Java

Spoken: Cantonese (4.5/5), English (4/5), Mandarin (4.5/5)

AI & ML: PyTorch, NumPy, Scikit-learn, Deep Learning (CNN, RNN), Computer Vision, GAN, Transformers, RL

Backend & Systems: MySQL, Express.js, Socket.io, Linux, Object-Oriented Design

Tools & Hardware: Git, STM32/ESP32, MIPS Architecture, Hardware Comm Protocols (I2C, ADC), Docker