James Young

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EDUCATION

The Hong Kong University of Science and Technology — Hong Kong
BEng in Electronic Engineering - Minor in Information Technology — *Sept. 2020 – June 2024*

Boston University — United States
Masters in Computer Science (Part Time) — *Sept. 2024 – June 2026*

SKILLS

Programming Languages: Python, Javascript, C++
Tools/Platforms: Git, Docker, Linux, AWS (EC2, S3, Lambda)
Hardware: STM32, Raspberry PI, ESP32, Arduino
Protocols: UART, SPI, I2C

WORK EXPERIENCE

Software Developer Intern | Intelligent Design Technology — *December 2023 – Feburary 2024*
- Developed a prototype for real-time human fall detection for a Raspberry PI based robot.
- Fall detection uses Tensorflow and Movenet for pose estimation and heuristics for determining fall.

Electronic Engineering Intern | Kolour Think Tank — *August 2023*
- Developed a digital utility meter reader that takes images of a utility meter with an ESP32-CAM, sends the image to AWS S3, reads the meter reading with AWS Rekognition, and stores the data in AWS DynamoDB.

IoT Intern | Graphite Venture Limited — *December 2022 – May 2023*
- Developed Arduino libraries for reading water sensor data with ESP32 and sending sensor data to AWS IoT Core through MQTT with a SIM7600G module.

PROJECTS

Mini Robot Cleaner 🔗
- Created a robot car with a STM32 board that can be wirelessly controlled through UDP or can roam autonomously
- Integrated the bubble rebound algorithm for avoiding obstacles in free roam mode using 3 ultrasonic sensors
- Used Python for socket programming and PyQT5 to create GUI to control robot wirelessly

IoT Air Quality Monitoring 🔗
- An IoT air quality monitoring system that uses STM32 to measure data from SGP30 and AM2320 sensors and uses ESP32 to send and store data in AWS DynamoDB.

Serverless Face Blurring
- A serverless application that blurs faces on an image using OpenFaaS and Python. Stores the transformed image in a MinIO storage bucket.
- Application deployable on Kubernetes using MiniKube and Helm charts.

EXTRACURRICULAR ACTIVITIES

- HKUST Soccer Team — Jan. 2021 - July 2024