

James Young

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EDUCATION

The Hong Kong University of Science and Technology
BEng in Electronic Engineering - Minor in Information Technology

Hong Kong
Sept. 2020 – Present

RELEVANT COURSEWORK

- Programming with C++
- Object-Oriented Programming and Data Structures
- Intro. to Computer Organization and Design
- Computer Communication Networks
- Machine Learning and Information Processing for Robotics
- Introduction to Embedded Systems

SKILLS

Programming Languages: C++, Python
Tools/Platforms: Git, Docker, Linux, Ansible, Jenkins
Hardware: STM32, Raspberry PI, ESP32, Arduino
Protocols: UART, SPI, I2C, ADC

WORK EXPERIENCE

Software Developer Intern | Intelligent Design Technology *December 2023 – February 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 sends the data to ESP32 to display on web browser.
- Uses I2C for obtaining sensor data, SPI to display information on an LCD, and UART to send data to ESP32.

EXTRACURRICULAR ACTIVITIES

- HKUST Football Team *Jan. 2021 - Present*