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 – Present*

Relevant Coursework

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

Skills

Programming Languages: C++, Javascript, Python, HTML/CSS
Tools/Platforms: Git, Docker, Linux, AWS (DynamoDB, Lambda, API Gateway, EC2, S3)
Languages: English (Native)

Work Experience

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.

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.

Projects

Air Quality Monitoring Dashboard

- A fullstack project that stores and displays my home's air quality sensor data on a DynamoDB database using AWS services.
- Data on DynamoDB is stored and retrieved using REST API with API Gateway and Lambda.
- Front-end uses HTML, CSS, and Javascript to call and display data from API.

To-Do List

- Created a to-do list website using Django framework with user authentication.
- Deployed Django application on an AWS EC2 instance with Docker using Gunicorn, Nginx-Proxy, Letsencrypt, and Postgres as database.

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

Extracurricular Activities

- HKUST Football Team — Jan. 2021 - Present