

# Hill Choy

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## SUMMARY

I am a recent graduate with a degree in Computer Engineering from HKUST. My research interests primarily lie in the area of Machine Learning / Artificial Intelligence and its practical applications, with a particular focus on computer vision. I am currently seeking further studies, research or work opportunities.

## EDUCATION

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

*BEng in Computer Engineering (Second Class Honors, Division 1)*

Graduation: July 2024

**IELTS Academic**

8 (Out of 9), (R:8.5,L:9,W:7,S:7)

**TOEFL iBT**

103 (Out of 120), (R:30/30,L:30/30,W:24/30,S:19/30)

## RESEARCH EXPERIENCE

**Advanced Video Analytics and Edge AI for Smart Carpark Systems**

*HKUST, Bachelor Degree Final Year Project (Supervisor: Prof. Shueng-Han Gary Chan, CSE, HKUST)*

- Developed a smart car park system that utilizes edge AI to provide real-time parking space availability. It is capable of informing drivers of available parking spaces while minimizing the computational, installation, and maintenance costs of the system.
  - Utilized You Only Look Once (YOLO) series models for the detection of cars on Raspberry Pi.
  - Implemented a MobileNetV3-based backbone in YOLOv8 to prune the model size while maintaining performance.
  - Utilized the LoRaWAN network to reduce the overall costs of network equipment installation and development.

## PROFESSIONAL EXPERIENCE

**Research Assistant**

**Hong Kong**

*Prof. Shueng-Han Gary Chan, CSE, HKUST*

08/2024 - 06/2025

- Developed computer vision-based solutions using YOLO series models to meet the various needs of projects.
- Developed web applications using Python and Flask for processing and displaying information.
- Optimized models and application pipelines for computer vision on IoT devices.
- List of Projects:
  - K11 MUSEA Cars and Pedestrian Flow Monitoring System
    - Monitor real-time traffic and pedestrian flow in key areas of the business-mall complex.
    - Provide property management with daily, weekly, monthly, and yearly reports to facilitate management.
    - Responsible for the training of models and development of data capture pipelines, backend, and the web frontend.
  - Privacy-Preserving Elderly Monitoring with a Novel Edge AI Camera
    - Monitor patients/elderly daily using privacy-conserving technology and alert staff if a patient or elderly person falls.
    - Recipient of the **Hong Kong ICT Awards 2024, Smart People (Smart Ageing) Silver Award**.
    - Responsible for data visualization and daily reports generation scripts for patients and the elderly.
  - Smart Traffic Management System (Kung Tong, Hong Kong) (**Ongoing**)
    - Monitored real-time traffic at major junctions in the Kung Tong District, alerting authorities to congestion and accidents.
    - Responsible for developing real-time traffic information capture pipelines for traffic patterns analytics.
    - Link: <https://www.police.gov.hk/>

**Intern**

**Hong Kong**

*Hong Kong Telecom (Fixed Networks Operation - Integrated Service Provision Center)*

06/2023 - 04/2025

- Upgraded internal tools with Python to improve the efficiency of the department's daily operations.
- Assisted in the development and integration of an AI chatbot for training purposes, providing answers based on standard flow instructions for employees within the department.

## ADDITIONAL

- **Languages:** Cantonese(Native), Mandarin(Basic), English(Fluent), Japanese(Foundation)