

Hill Choy

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SUMMARY

I am a recent graduate with a degree in Computer Engineering from HKUST. I am currently working as a Research Assistant at HKUST (Department of Computer Science and Engineering). 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

1. Advanced Video Analytics and Edge AI for Smart Carpark Systems

Hong Kong University of Science and Technology

Bachelor Degree Final Year Project (Supervisor: **Prof. Shueng-Han Gary Chan, CSE Department, 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 **SOTA** You Only Look Once (YOLO) series models for the detection of cars.
 - Implemented a MobileNetV3-based backbone in YOLOv8 to reduce the number of parameters while maintaining optimal performance.
 - Utilized the LoRaWAN network to reduce the overall costs of network equipment installation and development.

PROFESSIONAL EXPERIENCE

Hong Kong University of Science and Technology

Research Assistant (Department of Computer Science and Engineering)

Hong Kong

08/2024 - Present

- Developed computer vision-based solutions using **SOTA** 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 to deploy computer vision models on devices with limited computing power and low bandwidth scenarios.
- 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 AI scripts, backend systems, 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.
 - Currently in the trial phase and deployed in an elderly home and 30 solidarity elderly flats.
 - Recipient of the **Hong Kong ICT Awards 2024, Smart People (Smart Ageing) Silver Award**.
 - Responsible for data visualization and creating Python scripts to generate daily reports 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 while analyzing traffic patterns.
 - Responsible for developing real-time traffic information capture pipelines using YOLO for data collection and later analytics.
 - Link: <https://www.police.gov.hk/>

Hong Kong Telecom

Intern (Fixed Networks Operation - Integrated Service Provision Center)

Hong Kong

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)