# Hill Choy

✉ hhchoy@ust.hk      hillhc      📱 +852-61718745      🌐 https://hillchoy.com

## 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**                                                          **Hong Kong**
*Research Assistant (**Department of Computer Science and Engineering**)*                              *08/2024 - Prsent*

○ 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/ppp$_e$n/03$_p$olice$_m$essage/ktpst.html

**Hong Kong Telecom**                                                                              **Hong Kong**
*Intern (**Fixed Networks Operation - Integrated Service Provision Center**)*                        *06/2023 - 07/2024*

○ 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)