

# Mingxuan Hong

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## EDUCATION

### National University of Singapore (NUS)

*MEng Biomedical Engineering, supervised by Prof. Yueming Jin*

**Singapore**

*Aug 2023 - Present*

### The Chinese University of Hong Kong (CUHK)

*BEng AI: Systems & Tech, Cumulative GPA: 3.84/4.0*

**Shatin, NT, Hong Kong SAR, China**

*Sept 2019 – May 2023*

**Relevant Courses:** Data Structures, Discrete Math for Engineers, Fundamentals of AI, Numerical Optimization, Design and Analysis of Algorithms, Principles of Computer Graphics, Problem Solving by Programming

### University of Pennsylvania (UPenn)

*Exchange Program, GPA: 4.0/4.0*

**Philadelphia, PA, USA**

*Jan 2022 – May 2022*

**Relevant Courses:** Automata, Computability and Complexity, Machine learning, Deep Learning

## RESEARCH INTERESTS

- Computer Vision
- Medical Image Analysis

## RESEARCH RELATED EXPERIENCE

### Adapting 2D Image Models for 3D Semantic Segmentation

*Supervised by Prof. Yueming Jin, NUS*

**Singapore**

*May 2023 – Present*

- Working on 2D-to-3D adaptation for surgical video and 3D medical image semantic segmentation.

### 3D Object Detection for Autonomous Driving

*Research Assistant, supervised by Prof. Chi-Wing Fu, CUHK*

**Shatin, NT, Hong Kong SAR, China**

*May 2021 – Jan 2022*

- Proposed a 3D single-stage object detector (SSD) by simulating multi-modality on a single-modality input.
- Applied 4 levels of knowledge distillation to train the network to simulate multi-modality.
- Achieved state-of-the-art (SOTA) comparing with detectors on single-modality input, and surpassed the baseline multi-modality SSD on the key NDS metric.
- Successfully filled ~72% mAP gap between the single- and multi-modality SSDs.
- One paper accepted by CVPR 2022.

## PUBLICATIONS

- Wu Zheng, **Mingxuan Hong**, Li Jiang, Chi-Wing Fu. Boosting 3D Object Detection by Simulating Multimodality on Point Clouds. In *CVPR*, 2022.

## HONORS AND AWARDS

- Bronze Award for Outstanding Academic Performance, 2023
- Yu To Sang Memorial Scholarship 2021-2022, 2022-2023
- Arthur and Louise May Memorial Scholarships 2020-2021
- Wu Chung Scholarships and United College Head's List 2020-2021
- Elite Stream Scholarship 2020-2021
- Dean's List 2020-2021
- Chiap Hua Iron and Steel Works Ltd Scholarship and United College Head's List 2019-2020
- Elite Stream Scholarship 2019-20
- Dean's List 2019-2020
- Honours at Entrance 2019-2020

## SKILLS

**Languages:** Chinese (Native), English (Proficient: TOEFL 113)

**Programming Experience:** C, Python, Mathematica

**Libraries:** pandas, NumPy, Matplotlib, PyTorch

**Academic Writing and Presentation:** LATEX, PowerPoint