

# HUANG YIMING

## EDUCATION

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The Chinese University of Hong Kong

*Ph.D. in Electronic Engineering Supervisor: Ren Hongliang*

09 2023 – now

*HK, ShaTin*

Hong Kong University of Science and Technology

*Beng in Computer Science and Engineering*

09 2019 – 06 2023

*HK, Clear Water Bay*

## RESEARCH PROJECTS

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### Endoscopic 3D Reconstruction

Supervisor: [Ren Hongliang](#)

06 2023 - Present

- **First** method of dynamic Gaussian Splatting
- Endoscopic SLAM with Gaussian Splatting.

### Polarization-based Depth Refinement

Supervisor: [Chen Qifeng](#), [Lei Chenyang](#)

03 2023 - 12 2023

- Propose a prompt learning-based depth refinement pipeline.
- Resolve the reflective and transparent depth artifacts with polarization.
- Achieve SOTA performance for depth completion.

### Hybrid Mesh Field for Single View 3D Reconstruction

Supervisor: [Chen Qifeng](#)

10 2022 - 3 2023

- Resolve the corrupted geometry of single view input for NeRF by combining the explicit prior for geometry representation.
- Propose a texture and geometry joint reconstruction pipeline.

### AR/VR Interaction and Evaluation

Supervisor: [Lik-Hang Lee](#), [HUI PAN](#)

10 2020 - 3 2023

- Develop and evaluate a sim2real virtual system for Drone Controller Evaluation.
- Develop and evaluate an AR system for E-commerce and Dark Patterns.

## PUBLICATION

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**Huang, Y.**, Cui, B., Bai, L., Guo, Z., Xu, M., Islam, M., & Ren, H. (2024, October). Endo-4dgs: Endoscopic monocular scene reconstruction with 4d gaussian splatting. In International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2024).

De Haas, E. H. A., Lee, L. H., **Huang, Y.**, Bermejo, C., Hui, P., & Lin, Z. (2024, October). Towards Trustworthy MetaShopping: Studying Manipulative Audiovisual Designs in Virtual-Physical Commercial Platforms. In Proceedings of the 32nd ACM International Conference on Multimedia (MM 2024). **Oral Presentation**

Ikemura, K., **Huang, Y.**, Heide, F., Zhang, Z., Chen, Q., & Lei, C. (2024). Robust Depth Enhancement via Polarization Prompt Fusion Tuning. In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2024).

De Haas E, **Yiming H**, Bermejo C, et al. Towards Trustworthy Augmented Reality in The Metaverse Era: Probing Manipulative Designs in Virtual-Physical Commercial Platforms[C]//2023 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (IEEE VRW 2023).

Zheng L, **Yiming H**, Yui-Pan Y, Lik-Hang LEE\*, and Pan HUI. *Towards Reproducible Evaluations for Flying Drone Controllers in Virtual Environments*. 2022 IEEE RSJ International Conference on Intelligent Robots and Systems (IROS 2022)

## INTERNSHIP

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**SenseTime** 

*Computer Vision Engineer*

01 2022 – 08 2022

*HK, Science Park*

- Deployment of learning-based object detection on Raspi to **120 FPS**.
- Design an ISP pipeline for Raspi camera **20 times** faster than OpenISP
- Full-stack development for two released version of the product including **Algorithm, Back-end** and **Front-end**.

## EXTRACURRICULAR

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**HKUST Robomaster Team** 

*Infantry Robot Development Leader*

11 2019 – 09 2022

*HKUST*