HUANG YIMING ○ [lastbasket](#)

EDUCATION

The Chinese University of Hong Kong　　　　　　　　　　　　　　**09 2023 – now**
Ph.D. in Electronic Engineering Supervisor: Ren Hongliang　　　　　　*HK, ShaTin*

Hong Kong University of Science and Technology　　　　　　　　**09 2019 – 06 2023**
Beng in Computer Science and Engineering　　　　　　　　　　*HK, Clear Water Bay*

PROJECTS

Spatial Intelligence for Endoscopic Surgery
Supervisor: Ren Hongliang　　　　　　　　　　　　　　　　**06 2023 - Present**
- Dynamic Gaussian Splatting for Surgical Scene Reconstruction.
- Endoscopic SLAM with Gaussian Splatting.
- Gaussian Splatting with VLM for Surgical Scene Understanding.

Sensor-Agnostic Depth Enhancement with Polarization
Supervisor: Chen Qifeng, Lei Chenyang　　　　　　　　　　　**03 2023 - 12 2023**
- Propose a prompt fusion fine-tuning method for depth enhancement.
- Refine reflective and transparent artifacts for multiple sensors (Stereo, LiDAR, iToF, dToF).

3D Generation from Single View
Supervisor: Chen Qifeng　　　　　　　　　　　　　　　　　**10 2022 - 3 2023**
- Decompose and generate 3D shape and texture with re-projected single-view supervision.
- Propose a texture and geometry joint generation pipeline with NeuTex and SMAL.

SELECTED PUBLICATIONS

Huang Y., et al. Robust Endoscopic Scene Reconstruction and Illumination Correction with Gaussian Splatting. (MICCAI, 2025).

Huang Y., et al. Semantic 3D Surgical Scene Understanding with Open-Vocabulary Gaussian Splatting. (MICCAI, 2025).

Huang Y., et al. Advancing Dense Endoscopic Reconstruction with Gaussian Splatting-driven Surface Normal-aware Tracking and Mapping. 2025 IEEE International Conference on Robotics and Automation (ICRA, 2025).

Tian Y., Hao R., **Huang Y.**, et al. Learning to Perform Low-Contact Autonomous Nasotracheal Intubation by Recurrent Action-Confidence Chunking with Transformer. 2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS, 2025).

Shi W., Yang Y., **Huang Y.**, et al. Exploring Stiffness Gradient Effects in Magnetically Induced Metamorphic Materials via Continuum Simulation and Validation. 2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS, 2025).

Huang, Y., et al. Endo-4DGS: Endoscopic monocular scene reconstruction with 4D Gaussian Splatting. In International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2024).

Ikemura, K.*, **Huang, Y.***, et al. Robust Depth Enhancement via Polarization Prompt Fusion Tuning. In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2024).

De H., Lee L., **Huang, Y.**, et al. 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***

Li Z, **Huang Y**, Yau Y P, et al. Towards Reproducible Evaluations for Flying Drone Controllers in Virtual Environments[C]//2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2022).

Experience

SenseTime *Computer Vision Engineer*　　　　　　　　　　**01 2022 – 08 2022**
ISP, Object Detection, Yolo, Onnx

Enterprize (HKUST Robomaster) *Infantry Group Lead*　　　**09 2020 – 08 2022**
Solidworks, Mechanical Manufacture, Object Detection, Depth Estimation