

RESUME OF HAOLIN LIU

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EDUCATION

The Chinese University of Hong Kong (Shenzhen) *Sept 2019 - Present*
Ph.D. student in Computer and Information Engineering
Supervisors: Prof. Xiaoguang Han
Research Interests: Indoor Scene Understanding and Reconstruction, 3D-AIGC
Expected date of graduation: Oct. 2024

The Chinese University of Hong Kong (Shenzhen) *Sept 2015 - Jun 2019*
B. E. in Electronic Information Engineering
Top 5 among peers
Awards: Dean's List for excellent academic performance, 2016-2019.

WORK EXPERIENCE

Tencent AI Lab *Jan 2024 - Now*
Internship in 3D AIGC

PUBLICATIONS

***LASA*: Instance Reconstruction from Real Scans using A Large-scale Aligned Shape Annotation Dataset**

Haolin Liu, Chongjie Ye, Yinyu Nie, Yingfan He, Xiaoguang Han
(CVPR), 2024.

Towards high-fidelity single-view holistic reconstruction of indoor scenes

Haolin Liu, Yujian Zheng, Guanying Chen, Shuguang Cui, Xiaoguang Han
(ECCV), 2022.

***Refer-it-in-RGBD*: A Bottom-up Approach for 3D Visual Grounding in RGBD Images**

Haolin Liu, Anran Lin, Xiaoguang Han, Lei Yang, Yizhou Yu, Shuguang Cui
(CVPR), 2021.

***MVImgNet*: A Large-scale Dataset of Multi-view Images**

Xianggang Yu*, Mutian Xu*, Yidan Zhang*, **Haolin Liu***, Chongjie Ye*, Yushuang Wu, Zizheng Yan, Chenming Zhu, Zhangyang Xiong, Tianyou Liang, Guanying Chen, Shuguang Cui, Xiaoguang Han
(CVPR), 2023.

MVImgNet2.0: A Larger-scale Dataset of Multi-view Images

Yushuang Wu*, Luyue Shi*, **Haolin Liu***, Hongjie Liao, Lingteng Qiu, Weihao Yuan, Xiaodong Gu, Zilong Dong, Shuguang Cui, Xiaoguang Han
(ACM TOG) 2024.

JAFPro: Joint Appearance Fusion and Propagation for Human Video Motion Transfer from Multiple Reference Images

Xianggang Yu*, **Haolin Liu***, Xiaoguang Han, Zhen Li, Zixiang Xiong Shuguang Cui
(ACM MM), 2020.

GarVerseLOD: High-Fidelity 3D Garment Reconstruction from a Single In-the-Wild Image using a Dataset with Levels of Details

Zhongjin Luo, **Haolin liu**, Chenghong Li, Wanghao Du, Zirong Jin, Wanhu Sun, Yinyu Nie, Weikai Chen, Xiaoguang Han
(ACM TOG) 2024.

TO-Scene: A Large-scale Dataset for Understanding 3D Tabletop Scenes

Mutian Xu, Yidan Zhang, **Haolin Liu**, Xiaoguang Han
(ECCV) 2022.

*indicates co-first author

PROJECTS

Human Dance video generation: *Aug 2019 - June 2020*

Research on generating human dance videos given a single-view reference image as input.
Paper accepted by ACM MM 2020

3D Visual Grounding: *June 2020 - March 2021*

Propose a bottom-up approach for 3D Visual Grounding on RGB-D Images and achieve SOTA performance.
Paper accepted by CVPR 2021

Single-view Indoor Instance Reconstruction *June 2021 - Dec 2022*

Researched indoor instance reconstruction given single-view images as input. I propose the instPIFu method to address object occlusion problems to improve reconstruction performance significantly.
Paper accepted by ECCV 2022

3D pre-training on MVImgNet: *June 2021 - Dec 2022*

Propose a large-scale multi-view dataset MVImgNet. Use MVImgNet to pre-train object classification, then finetuned the pre-trained model to adapt downstream tasks such as in-the-wild classification and object detection and achieve significant improvement.
Paper accepted by CVPR 2023

Awards: Chinagraph open-source graphics award

Robust Indoor instance Reconstruction: *March 2023 - Dec 2023*

Design a novel latent tri-plane diffusion Model for robust in-the-wild indoor instance reconstruction given multi-view images and point cloud as inputs and achieve SOTA performance. Paper accepted by CVPR 2024.

Large Reconstruction model on MVImgNet-2.0: *March 2024 - May 2024*

Propose a larger multi-view dataset MVImgNet-2.0. Training and reproducing several large reconstruction models (LRM, LGM, TriplaneMeetGaussian) on MVImgNet 2.0 to improve reconstruction performance on real-world objects' reconstruction.

Paper submitted to top conference.

Single-view topology-consistent Garment reconstruction : *March 2024 - May 2024*

Develop an algorithm based on implicit reconstruction and registration to produce garment meshes with nice topology.

Paper submitted to top conference.

SKILLS

Programming Languages	Python, C/C++, MATLAB, R, Bash
Libraries/Packages	PyTorch, TensorFlow, OpenCV, Open3D, CUDA
Software & Tools	Blender, LaTeX, HTML, SQL
Hardware	Embedded System, VHDL, FPGA
English	TOEFL 104, GRE 325