

# RESUME OF HAOLIN LIU

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## EDUCATION

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**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

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

## PUBLICATIONS

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**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.

**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.

**TO-Scene: A Large-scale Dataset for Understanding 3D Tabletop Scenes**  
Mutian Xu, Yidan Zhang, **Haolin Liu**, Xiaoguang Han  
(ECCV) 2022.

**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  
(Under Reviewed) 2024.

**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, Wanhui Sun, Yinyu Nie, Weikai Chen, Xiaoguang Han  
(Under Reviewed) 2024.

\*indicates co-first author

## PROJECTS

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**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

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