

# (Mino) Mutian XU

许牧天

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## Education

- 2021–2025 : **Ph.D. in Computer Information and Engineering**, The Chinese University of Hong Kong, Shenzhen, Computer vision, 3D vision and Deep Learning.
- 2018–2020 : **M.Sc. in Computer Engineering (GPA: 3.592/4.0)**, University of California, Irvine.
- 2014–2018 : **B.Eng. in Radio Wave Propagation & Antenna (GPA: 3.56/4.0)**, Xidian University, Xi'an.

## Research Experience

- Sep, 2025 – **Multimedia Laboratory, Nanyang Technological University, Singapore**, Research Fellow.  
Now *World Model*
- Advisor : **Prof. Ziwei Liu**
- June, 2020 – **CVMI Lab, The University of Hong Kong, Hong Kong SAR**, Research Assistant.  
Feb, 2021 *3D Point Cloud Convolution*
- Advisor : **Prof. Xiaojuan Qi**
- July, 2019 – **Multimedia Lab, Shenzhen Institutes of Advanced Technology, Shenzhen**, Visiting Student.  
Nov, 2019 *3D Object Point Cloud Classification and Segmentation*
- Advisor : **Prof. Yu Qiao** and **Dr. Zhipeng Zhou**

## Publications (\* denotes equal contribution, † indicates project lead)

### REFEREED CONFERENCE PUBLICATIONS

Xianggang Yu \*, **Mutian Xu** †\*, Yidan Zhang \*, Haolin Liu \*, Chongjie Ye \*, *et al.*, and Xiaoguang Han. MVImgNet: A Large-scale Dataset of Multi-view Images. In *CVPR 2023*, **200+ citations**.

**Mutian Xu** \*, Runyu Ding \*, Hengshuang Zhao, and Xiaojuan Qi. PAConv: Position Adaptive Convolution with Dynamic Kernel Assembling on Point Clouds. In *CVPR 2021*, **600+ citations**.

**Mutian Xu**, Chongjie Ye, Haolin Liu, Yushuang Wu, Jiahao Chang, and Xiaoguang Han. Stable-Sim2Real: Exploring Simulation of Real-Captured 3D Data with Two-Stage Depth Diffusion. In *ICCV 2025*, **Highlight**.

**Mutian Xu** \*, Pei Chen \*, Haolin Liu, and Xiaoguang Han. TO-Scene: A Large-scale Dataset

for Understanding 3D Tabletop Scenes. In *ECCV 2022*, **Oral Presentation (2.7%)**.

**Mutian Xu**, Xingyilang Yin, Lingteng Qiu, Yang Liu, Xin Tong, and Xiaoguang Han. SAMPro3D: Locating SAM Prompts in 3D for Zero-Shot Instance Segmentation. In *3DV 2025*, **100+ GitHub stars**.

**Mutian Xu \***, Junhao Zhang \*, Zhipeng Zhou, Mingye Xu, Xiaojuan Qi, and Yu Qiao. Learning Geometry-Disentangled Representation for Complementary Understanding of 3D Object Point Cloud. In *AAAI 2021*, **100+ citations**.

Mingye Xu \*, **Mutian Xu \***, Tong He, Wanli Ouyang, Yali Wang, Xiaoguang Han, and Yu Qiao. MM-3DScene: 3D Scene Understanding by Customizing Masked Modeling with Informative-Preserved Reconstruction and Self-Distilled Consistency. In *CVPR 2023*.

David Junhao Zhang, **Mutian Xu †**, Jay Zhangjie Wu, Chuhui Xue, Wenqing Zhang, Xiaoguang Han, Song Bai, and Mike Zheng Shou. Free-ATM: Harnessing Free Attention Masks for Representation Learning on Diffusion-Generated Images. In *ECCV 2024*.

Hongxiang Zhao \*, Xingcheng Liu \*, **Mutian Xu †**, Yiming Hao, Weikai Chen, and Xiaoguang Han. TASTE-Rob: Advancing Video Generation of Task-Oriented Hand-Object Interaction for Generalizable Robotic Manipulation. In *CVPR 2025*.

Lingteng Qiu \*, Guanying Chen \*, Xiaodong Gu \*, Qi Zuo, **Mutian Xu**, Yushuang Wu, *et al.*, and Xiaoguang Han. RichDreamer: A Generalizable Normal-Depth Diffusion Model for Detail Richness in Text-to-3D. In *CVPR 2024*, **Highlight (2.8%)**.

Lingteng Qiu \*, Guanying Chen \*, Jiapeng Zhou, **Mutian Xu**, Junle Wang, and Xiaoguang Han. REC-MV: Reconstructing 3D Dynamic Cloth from Monocular Videos. In *CVPR 2023*.

### Under Submission

Xingyilang Yin, **Mutian Xu**, Xu Gu and Xi Yang. Unleashing the Multi-View Fusion Potential: Noise Correction in VLM for Open-Vocabulary 3D Scene Understanding.

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### REFEREED JOURNAL ARTICLES

Chaoqi Chen, Yushuang Wu, Qiyuan Dai, Hong-Yu Zhou, **Mutian Xu**, Sibe Yang, Xiaoguang Han, and Yizhou Yu. A Survey on Graph Neural Networks and Graph Transformers in Computer Vision: A Task-Oriented Perspective. *TPAMI 2024*, **100+ citations**.

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### Awards & Certificates

2025 **Outstanding Reviewer, CVPR 2025 (5.6%)**

2024 **WAIC Youth Outstanding Paper Nomination Award** (世界人工智能大会青年优秀论文提名奖, MVMgNet), 2024

2023 **Top Reviewer, NeurIPS 2023 (9.9%)**

2023 **Outstanding Reviewer, CVPR 2023 (3.3%)**

2023 **CCF Excellent Graphics Open-Source Dataset** (中国计算机学会年度优秀图形开源数据集奖, MVImgNet), 2023

2022/24 Outstanding Teaching Assistant Award of CUHKSZ

## Professional Services

Journal TIP, IJCV, TVCG, NEUCOM, TMM, TMC, MVAP

Reviewer

Conference CVPR 23/24/25, ICCV 21/23/25, ECCV 24, SIGGRAPH Asia 25, ICLR 24/25, ICML 24/25,

Reviewer NeurIPS 23/25, 3DV 25, IJCAI 24, WACV 24/25, ACCV 24

## Talks

2024 “我要这 *paper* 有何用 (*Why Do I Need Papers*) ? ” , VALSE Webinar 2024

2023 **Outstanding Student Forum** of VALSE 2023

2023 **Outstanding Student Forum** of China 3DV 2023

2023 Youth PhD Talk - ECCV 2022, invited by AI-TIME

## Teaching Assistantship

**CSC1001: Introduction to Computer Science: Programming Methodology**, CUHKSZ, *Leading TA*.

**CSC1002: Computational Laboratory**, CUHKSZ.

**CSC3002: Introduction to Computer Science: Programming Paradigms**, CUHKSZ.

## Previous Mentorship

2022 Pei Chen, M.Phil. at CUHKSZ, now at Ant Group

## Miscellaneous

3rd Place in the 31st School Singer Contest, Xidian University

Piano Professional Certificate Level 10