

XIANGYUE LIU

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Education

Hong Kong University of Science and Technology

Ph.D in Electronic and Computer Engineering (Supervisor: Ping TAN)

Sept. 2023 – Present

Hong Kong, China

Beihang University

M.Phil in Software Engineering

Sep. 2018 – Jul. 2021

Beijing, China

Northeast Normal University

B.Eng in Software Engineering

Sep. 2014 – Jul. 2018

Jilin, China

Research Interests

My research interests focus on **Multimodal Pretraining, Large Multimodal Foundation Models, Unified Understanding and Generation**, and **Generative Models**.

Experience

Tencent Hunyuan Foundation Model Team

Research Intern (Mentor: Dr. Zijian Zhang, Dr. Miles Yang)

Nov. 2025 – Jun. 2026

Shenzhen, China

- **Core Architecture Selection & Research:** Conducted critical scaling experiments for architecture selection (MoE v.s. MoT) on the flagship **HunyuanImage3.5** foundation model. Solved catastrophic forgetting and routing collapse in T2I pretraining via native multimodal MoE.
- **Engineering & Open-Source:** Independently re-implemented the entire Rosetta framework for open-source release. Built a scalable pretraining & inference pipeline supporting a single GPU to multi-node clusters (e.g., 256 GPUs).
- **Publications:** First-authored **Symbiotic-MoE (ECCV 2026)** and **Rosetta (NeurIPS Under Review)**.

Tencent AI Lab

Research Intern (Mentor: Dr. Yuxin Wen, Dr. Qi Zhang)

Sept. 2023 – Dec. 2024

Shenzhen, China

- **Research Contributions:** Pioneered research in 3D & 4D modeling and generation based on NeRF and 3D Gaussian Splatting.
- **Publications:** First-authored papers including **GenN2N (CVPR 2024)** and **GaussianAvatar-Editor (3DV 2025)**.

Megvii Research

Research Intern (Multiple Periods, Cumulative: 3 Years)

Aug. 2019 – Aug. 2023

Beijing, China

- **Research & Implementation:** Implemented the complete codebase and executed extensive experimental validations for foundational 3D vision projects (NeRF, Deep MVS, and Visual SLAM).
- **Publications:** Co-first authored **ICRA 2021** (solely responsible for all code implementation and experiments) and contributed significantly to **CVPR 2022** and **ECCV 2022 (x2)**.

Publications

1. Rosetta: Composable Native Multimodal Pretraining
Xiangyue Liu, Zijian Zhang, Miles Yang, Zhao Zhong, Liefeng Bo, Ping Tan
Under Review
2. Symbiotic-MoE: Unlocking the Synergy between Generation and Understanding
Xiangyue Liu, Zijian Zhang, Miles Yang, Zhao Zhong, Liefeng Bo, Ping Tan
ECCV 2026
3. NoiseAR: AutoRegressing Initial Noise Prior for Diffusion Models
Zeming Li*, **Xiangyue Liu***, Xiangyu Zhang, Ping Tan, Heung-Yeung Shum
Under Review
4. GaussianAvatar-Editor: Photorealistic Animatable Gaussian Head Avatar Editor
Xiangyue Liu, Kunming Luo, Heng Li, Qi Zhang, Yuan Liu, Li Yi, Ping Tan
3DV 2025 (Accept without Rebuttal)
5. GenN2N: Generative NeRF2NeRF Translation
Xiangyue Liu, Han Xue, Kunming Luo, Ping Tan, Li Yi
CVPR 2024 (Reviews: 5,5,4 - Strong Accept 5)

6. Sobolev Training for Implicit Neural Representations with Approximated Image Derivatives
Wentao Yuan, Qingtian Zhu, **Xiangyue Liu**, Yikang Ding, Haotian Zhang, Chi Zhang
ECCV 2022
7. KD-MVS: Knowledge Distillation Based Self-supervised Learning for Multi-view Stereo
Yikang Ding, Qingtian Zhu, **Xiangyue Liu**, Wentao Yuan, Haotian Zhang, Chi Zhang
ECCV 2022
8. TransMVSNet: Global Context-aware Multi-view Stereo Network with Transformers
Yikang Ding*, Wentao Yuan*, Qingtian Zhu, Haotian Zhang, **Xiangyue Liu**, Yuanjiang Wang, Xiao Liu
CVPR 2022
9. Structure Reconstruction Using Ray-Point-Ray Features: Representation and Camera Pose Estimation
Yijia He*, **Xiangyue Liu***, Xiao Liu, Ji Zhao
ICRA 2021

Selected Awards

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| • Outstanding Graduate Student of Beijing | 2021 |
| • Top 0.3% in 3D Instance Segmentation Challenge at IJCAI 2020 (rank 2/559) | 2020 |
| • National College Students Innovation and Entrepreneurship Training Program | 2016 |

Academic Services

Conference Workshop Organizer: IROS 2025

Conference Reviewer: ICCV, ECCV, ICRA, 3DV, ICLR, NeurIPS

Journal Reviewer: TPAMI

Skills

Programming languages: Python (Expert), PyTorch (Expert), C++ (Proficient)

Frameworks/Tools: FSDP, DeepSpeed, Megatron-LM, HuggingFace

Languages: English (Proficient), Chinese (Native)

Teaching Assistant

Electronic and Information Technology (HKUST, ELEC1010)

Computer Communication Networks (HKUST, ELEC3120)