

XIANGYUE LIU

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Education

Hong Kong University of Science and Technology Sept. 2023 – Present
Ph.D in Electronic and Computer Engineering (Supervisor: Ping TAN) Hong Kong, China

Beihang University Sep. 2018 – Jul. 2021
M.Phil in Software Engineering Beijing, China

Northeast Normal University Sep. 2014 – Jul. 2018
B.Eng in Software Engineering Jilin, China

Research Interests

My research interests focus on **multimodal foundation models**, **unified understanding and generation**, and **generative modeling**, with an emphasis on **multimodal pretraining** and **scalable model architectures**.

Experience

Tencent Hunyuan Foundation Model Team Nov. 2025 – Jun. 2026
Research Intern (Mentor: Dr. Zijian Zhang, Dr. Miles Yang) Shenzhen, China

- **Flagship Architecture:** Led architecture studies for the flagship **HunyuanImage3.5**, evaluating the fundamental MoE vs. MoT design trade-off through large-scale experiments that directly informed the final architecture selection.
- **Large-Scale Pretraining:** Diagnosed and resolved **catastrophic forgetting** during large-scale T2I pretraining by developing training strategies that stabilized model scaling and preserved model capabilities.
- **Scaling & Systems:** Independently designed and built **Rosetta** for open-source release, and engineered a scalable pretraining and inference pipeline from **single-GPU to 256-GPU** multi-node training.
- **Research Output:** First-authored **Symbiotic-MoE (ECCV 2026)** and **Rosetta (NeurIPS 2026, under review)**, spanning foundation-model architecture and scalable multimodal pretraining systems.

Tencent AI Lab Sept. 2023 – Dec. 2024
Research Intern (Mentor: Dr. Yuxin Wen, Dr. Qi Zhang) Shenzhen, China

- **Research:** Conducted research on **3D/4D generation and editing** with NeRF and 3D Gaussian Splatting, first-authored **GenN2N (CVPR 2024)** and **GaussianAvatar-Editor (3DV 2025)**.

Megvii Research Aug. 2019 – Aug. 2023
Research Intern (Multiple Periods, Cumulative: 3 Years) Beijing, China

- **Research:** Conducted research and implemented end-to-end systems for **3D vision**, **NeRF**, **Deep MVS**, and **Visual SLAM**, including co-first authorship at **ICRA 2021** and contributions to **CVPR 2022** and **ECCV 2022 (×2)**.

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. Plan-and-Paint: Collaborating Semantic and Noise Reasoning for Text-to-Image Generation
Xiangyue Liu, Ping Tan
Under Review
4. NoiseAR: AutoRegressing Initial Noise Prior for Diffusion Models
Zeming Li*, **Xiangyue Liu***, Xiangyu Zhang, Ping Tan, Heung-Yeung Shum
Under Review
5. 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)
6. GenN2N: Generative NeRF2NeRF Translation
Xiangyue Liu, Han Xue, Kunming Luo, Ping Tan, Li Yi
CVPR 2024 (Reviews: 5,5,4 - Strong Accept 5)

7. Sobolev Training for Implicit Neural Representations with Approximated Image Derivatives
Wentao Yuan, Qingtian Zhu, **Xiangyue Liu**, Yikang Ding, Haotian Zhang, Chi Zhang
ECCV 2022

8. 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

9. 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

10. Structure Reconstruction Using Ray-Point-Ray Features: Representation and Camera Pose Estimation
Yijia He*, **Xiangyue Liu***, Xiao Liu, Ji Zhao
ICRA 2021

Selected Awards

• 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)