

Weijie Lyu

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RESEARCH INTERESTS

Computer Vision

- Current Focus: Video Generation, 3D/4D Reconstruction
- Previous Experience: Continual Learning, Autonomous Driving, Image Generation, Robotics, etc.

EDUCATION

University of California, Merced, Merced, CA Aug. 2023 — Present
Doctor of Philosophy, Electrical Engineering and Computer Science

- Ph.D. Advisor: Prof. Ming-Hsuan Yang

University of Illinois, Urbana-Champaign, Urbana-Champaign, IL Aug. 2021 — May 2023
Master of Science, Computer Science

- M.S. Advisor: Prof. Derek Hoiem
- Thesis: *MACON: Memory-Augmented Continual Learning for Open-world Classification*

ShanghaiTech University, Shanghai, China Sept. 2017 — July 2021
Bachelor of Engineering, Computer Science and Technology

- Senior Thesis Advisor: Prof. Zhihao Jiang
- Thesis: *Intelligent Driving Verification Platform Based on Virtual Traffic Conditions*
- Award: Outstanding Graduate of Shanghai; Outstanding Graduate of ShanghaiTech University

University of California, Berkeley, Berkeley, CA Aug. 2019 — May 2020
Visiting Student, Electrical Engineering and Computer Science

- Undergraduate Research Advisor: Prof. Sonia Bishop

WORK EXPERIENCE

ByteDance, San Jose, CA Feb. 2026 — Present
Research Scientist Intern

- Working on micro drama video generation.

Adobe Research, San Jose, CA May 2024 — Jan. 2026
Research Scientist/Engineer Intern

- Developed FaceCam, portrait video camera control without scale ambiguity, accepted by CVPR 2026.
- Developed *FaceLift*, a framework for high-fidelity 3D head reconstruction, accepted by ICCV 2025.

PUBLICATIONS AND PREPRINTS

FaceCam: Portrait Video Camera Control via Scale-Aware Conditioning
Weijie Lyu, Ming-Hsuan Yang, Zhixin Shu

- CVPR 2026

Edit3r: Instant 3D Scene Editing from Sparse Unposed Images
Jiageng Liu, Weijie Lyu*, Xuetong Li, Yeqie Guo, Ming-Hsuan Yang*

- In submission

FaceLift: Learning Generalizable Single Image 3D Face Reconstruction from Synthetic Heads
Weijie Lyu, Yi Zhou, Ming-Hsuan Yang, Zhixin Shu

- ICCV 2025
- Project Page: <https://weijielyu.github.io/FaceLift>

Gaga: Group Any Gaussians via 3D-aware Memory Bank

Weijie Lyu, Xuetong Li, Abhijit Kundu, Yi-Hsuan Tsai, Ming-Hsuan Yang

- arXiv 2024
- Project Page: <https://weijielyu.github.io/Gaga>

InstaInpaint: Instant 3D-Scene Inpainting with Masked Large Reconstruction Model

Junqi You, Chieh Hubert Lin, Weijie Lyu, Zhengbo Zhang, Ming-Hsuan Yang

- NeurIPS 2025
- Project Page: https://dhmhb2.github.io/InstaInpaint_page

HoliGS: Holistic Gaussian Splatting for Embodied View Synthesis

Xiaoyuan Wang, Yizhou Zhao, Botao Ye, Xiaojun Shan, Weijie Lyu, Lu Qi, Kelvin C.K. Chan, Yinxiao Li, Ming-Hsuan Yang

- NeurIPS 2025

PTT: Point-Trajectory Transformer for Efficient Temporal 3D Object Detection

Kuan-Chih Huang, Weijie Lyu, Ming-Hsuan Yang, Yi-Hsuan Tsai

- CVPR 2024
- Project Page: <https://github.com/kuanchihhuang/PTT>

Continual Learning in Open-vocabulary Classification with Complementary Memory Systems

Zhen Zhu, Weijie Lyu*, Yao Xiao, Derek Hoiem*

- TMLR 2024
- Project Page: <https://github.com/jessempolio/TreeProbe>

Consistent Multimodal Generation via A Unified GAN Framework

Zhen Zhu, Yijun Li, Weijie Lyu, Krishna Kumar Singh, Zhixin Shu, Sören Pirk, Derek Hoiem

- WACV 2024

SafeBench: A Benchmarking Platform for Safety Evaluation of Autonomous Vehicles

Chejian Xu, Wenhao Ding*, Weijie Lyu, Zuxin Liu, Shuai Wang, Yihan He, Hanjiang Hu, Ding Zhao, Bo Li*

- NeurIPS 2022
- Project Page: <https://safebench.github.io>

CircuitBot: Learning to survive with robotic circuit drawing

Xianglong Tan, Weijie Lyu, Andre Rosendo

- PLOS ONE 2022

ACADEMIC SERVICES

Conference Reviewer CVPR, ICCV, ECCV, ICLR, NeurIPS, ACM MM, ACM SIGGRAPH, etc.
Journal Reviewer PAMI, TMLR, ACM TOG etc