

# Weijie Lyu

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## RESEARCH INTERESTS

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### Computer Vision

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

## EDUCATION

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**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

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**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

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**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\*, Xueting Li, Yejie 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, Xueting 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://dhmbb2.github.io/InstaInpaint\\_page](https://dhmbb2.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/jessemelpolio/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**

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**Conference Reviewer**

CVPR, ICCV, ECCV, ICLR, NeurIPS, ACM MM, ACM SIGGRAPH, etc.

**Journal Reviewer**

PAMI, TMLR, ACM TOG etc