Weijie Lyu

311 Science and Engineering Building 2, UC Merced, CA 95343

wlyu3@ucmerced.edu ⋄ (217) 848-2875 ⋄ Website ⋄ Google Scholar

RESEARCH INTERESTS

Computer Vision and Machine Learning

- Current Focus: 3D Novel View Synthesis
- 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   GPA: 4.00

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

University of Illinois, Urbana-Champaign, Urbana-Champaign, IL   Aug. 2021 — May 2023
Master of Science, Computer Science   GPA: 3.91

- 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   GPA: 3.67

- 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   GPA: 3.68

- Undergraduate Research Advisor: Prof. Sonia Bishop

PUBLICATIONS

PTT: Point-Trajectory Transformer for Efficient Temporal 3D Object Detection CVPR 2024
Kuan-Chih Huang, **Weijie Lyu**, Ming-Hsuan Yang, Yi-Hsuan Tsai

Consistent Multimodal Generation via A Unified GAN Framework   WACV 2024
Zhen Zhu, Yijun Li, **Weijie Lyu**, Krishna Kumar Singh, Zhixin Shu, Sören Pirk, Derek Hoiem

SafeBench: A Benchmarking Platform for Safety Evaluation of Autonomous Vehicles
NeurIPS 2022
Chejian Xu*, Wenhao Ding*, **Weijie Lyu**, Zuxin Liu, Shuai Wang, Yihan He, Hanjiang Hu, Ding Zhao, Bo Li

CircuitBot: Learning to survive with robotic circuit drawing   PLOS ONE
Xianglong Tan,**Weijie Lyu**, Andre Rosendo

PREPRINTS

Continual Learning in Open-vocabulary Classification with Complementary Memory Systems
Zhen Zhu*, **Weijie Lyu***, Yao Xiao, Derek Hoiem

- Submitted to ICML 2024

ACADEMIC SERVICES

Conference Reviewer   NeurIPS 2022

PROJECTS

Face to Emoji   UIUC, Spring 2022
Project Link: `https://github.com/weijielyu/face2emoji`

- CS 455 course project advised by Prof. Yuxiong Wang
- Develop a face-to-emoji converter based on emotion classification and face orientation detection to achieve precise alignment

Lane Boundaries Detection in Extreme Scenario   UIUC, Fall 2021
Project Link: `https://github.com/weijielyu/CS588_Final_Project`

- CS 588 course project advised by Prof. David Forsyth
- Develop a lane-following algorithm that surpasses deep learning-based methods on sharply curved lanes by effectively using Canny edge-detection, Hough line detection, DBSCAN, etc.

Developmental Prosopagnosia and Autism-trait (DPA) Project   UC Berkeley, Spring 2020

- Undergraduate researcher advised by Prof. Sonia Bishop
- Detect and visualize eye tracker data, distinguishing fixations, blinks, and saccades while examining facial features to identify behavioral distinctions between individuals with DPA and those without

Robot Art: Using Robot Arm to Draw Pictures   UC Berkeley, Fall 2019
Project Link: `https://sites.google.com/berkeley.edu/ee106a-roboart`

- EECS C106A course project advised by Prof. S. Shankar Sastry
- Design a PID control system that allows a robot to draw a portrait / write Chinese characters with ROS

TEACHING EXPERIENCE

University of California, Merced   Merced, CA
Teaching Assistant

- CSE 185 Introduction to Computer Vision   Fall 2023

University of Illinois, Urbana-Champaign   Urbana-Champaign, IL
Teaching Assistant

- CS 441 Applied Machine Learning   Spring 2023
- CS 100 Computer Science Orientation   Fall 2022

ShanghaiTech University   Shanghai, China
Teaching Assistant

- CS 150 Database and Data Mining   Fall 2020