

Weijie Lyu

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EDUCATION

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN, Urbana-Champaign, IL Aug. 2021 – Present

Master of Science, Computer Science

- GPA: 3.93/4.0
- Thesis Advisor: [Prof. Derek Hoiem](#)

SHANGHAITECH UNIVERSITY, Shanghai, China Sept. 2017 – July 2021

Bachelor of Engineering, Computer Science and Technology

- GPA: 3.67/4.0; Major Rank: 13/142
- Outstanding Graduate of Shanghai
- Outstanding Graduate of ShanghaiTech University
- *Undergraduate Scholarship* (top 15% of students), 2017-2018; 2018-2019; 2019-2020
- *Merit Student* (top 5.6% of undergraduate students), 2017-2018; 2018-2019; 2019-2020

UNIVERSITY OF CALIFORNIA, BERKELEY, Berkeley, CA Aug. 2019 – May 2020

Berkeley-ShanghaiTech GLOBE Visiting Student Program

- GPA: 3.68/4.0
- Undergraduate researcher in [Prof. Sonia Bishop's Lab](#).

PUBLICATIONS

[SafeBench: A Benchmarking Platform for Safety Evaluation of Autonomous Vehicles \(Website\)](#)

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

- NeurIPS 2022 (Under Review).
- A benchmark which systematically evaluate the safety and robustness of autonomous driving (AD) algorithms based on diverse testing scenarios and comprehensive evaluation metrics.

CircuitBot: Learning to survive with robotic circuit drawing

*Xianglong Tan, **Weijie Lyu**, Andre Rosendo*

- Published on PLOS ONE.
- Presented a scenario where the robot needs to construct an electrical path and avoid potential obstacles by drawing connected circuit patterns with graphene-based conductive ink to access energy from a power source.
- Adopted a state-of-the-art Mix-Variable Bayesian Optimization for optimizing circuit shapes and locations to maximize the power robot receives.

ACADEMIC SERVICES

CONFERENCE REVIEWER

NeurIPS 2022 Datasets and Benchmarks

RESEARCH PROJECTS

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN, Urbana-Champaign, IL Aug. 2021 – Present

Visual Models Ensemble (Advised by Prof. Derek Hoiem) June. 2022 – Present

- Create an ensemble of big models under test-time budget that can work well for various datasets.

Lane Boundaries Detection in Extreme Scenario (Advised by Prof. David Forsyth) Aug. 2021 – Dec. 2021

- Used simply canny edge-detection, Hough line detection, DBSCAN, etc. algorithms, successfully accomplished lane boundaries detection and lane following task in Highway backlot.

- Especially, our algorithm has significantly better performance than nowadays state-of-art CNN approaches on the sharply curved lanes.

SHANGHAITECH UNIVERSITY, Shanghai, China Sept. 2017 – July. 2021

Senior Thesis (in Cyber-Physical Systems (CPS) Lab | Advisor: Prof. Zhihao Jiang) Oct. 2020 – May. 2021

- Constructed an intelligent driving verification platform based on SUMO (Simulation of Urban MObility) with Unity.
- Built NPC vehicles control models, including car-following model, lane change model, and ray detection.

UNIVERSITY OF CALIFORNIA, BERKELEY, Berkeley, CA Aug. 2019 – May 2020

Developmental Prosopagnosia and Autism-trait (DPA) project (Bishop Lab) Jan. 2020 – Aug. 2020

- Classify and visualized eye tracker data into fixations, blinks, and saccades.
- Detected facial features and analyzed participants' fixations.

ROBOART (Advised by Prof. S. Shankar Sastry) Oct. 2019 – Dec. 2019

- Designed a PID control system that allows a robot to draw a portrait / write Chinese characters with ROS.

EMPLOYMENT

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN, Urbana-Champaign, IL Aug. 2021 – Present

Teaching Assistant, CS 100 Computer Science Orientation Aug. 2022 – Dec. 2022

- Professor of the course: Margaret M. Fleck

Research Assistant, Secure learning lab Aug. 2021 – Jan. 2022

- Advised by Prof. Bo Li

RIMBLE, Berkeley, CA May 2019 – Aug. 2019

Internship

- A startup founded by my teammate at UC Berkeley.
- Use sophisticated machine learning models and proprietary raw data to generate accurate real-time odds and analytics for eSports.
- In charge of processing eSports images and getting information using computer vision techniques.

SHANGHAITECH UNIVERSITY, Shanghai, China Sept. 2017 – July 2021

Teaching Assistant, CS150 Database and Data Mining Sept. 2020 – Jan. 2021

- Professor of the course: Lu Sun

ACTIVITIES

SHANGHAITECH UNIVERSITY, Shanghai, China Sept. 2017 – July 2021

Team Member, Social Practice Group, Ya'an Prefecture, Sichuan Province, China May 2018 – Aug. 2018

- Helped local farmers sell their tea and kiwifruit online by developing a mobile e-commerce app.
- Helped local governments find the best solutions to promote economic development to alleviate poverty by identifying competitive advantages of local products.
- Won Third Prize in Shanghai universities Social Practice project competition (**Zhi Xing Cup**), 2018.

BASIC INFORMATION

- Citizenship Status: *Chinese*
- Research Interests: *Computer Vision, Machine Learning, etc*
- Languages: *Chinese (Native), English (Fluent)*