ZHAOJING YANG

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EDUCATION

University of Southern California Aug 2022 - May 2024
M.S in Computer Science GPA: 4.0/4.0

Shanghai Jiao Tong University Sep 2018 - June 2022
B.Eng in Computer Science and Technology GPA: 3.73/4.3

RESEARCH INTEREST

My research interest lies at the intersection of **Reinforcement Learning and Robotics**. I'm interested in applying learning method to train optimal robot policies in simulation and deploy them in the real-world. My vision is to enable robots to perform complex tasks in the real world and interpret human instructions for better human-robot collaboration.

RESEARCH EXPERIENCES

Legged Robot Locomotion with Reinforcement Learning Jun 2024 - Now
Visiting Researcher, UCSD *Advisor: Xiaolong Wang*
· Trained locomotion policy with obstacle avoidance capability using RL in IsaacLab.
· Deployed the trained policy on Unitree Go2 robot and integrated with a navigation VLM.

Preference-based Learning with Human Language Feedback Aug 2023 - Jun 2024
Research Assistant, USC *Advisor: Erdem Bıyık*
· Proposed a learning-based framework to learn a latent space that aligns human preferences through comparative language feedback with robot trajectories, which can then be used to learn human reward functions or improve robot trajectories.
· Conducted user studies on real robot, which demonstrate that our approach achieves a 23.9% higher subjective score on average and is 11.3% more time-efficient compared to the baseline

Multi-drones Collision Avoidance with Reinforcement Learning Nov 2022 - Jun 2023
Research Assistant, USC *Advisor: Gaurav Sukhatme*
· Proposed an end-to-end model that outputs direct thrusts to control quadrotors and achieved 97% agent success rate in obstacle and neighbor avoidance in simulation.
· Applied attention module in the model and deployed the model on micro quadrotors (Crazyflies) in the real world.

PUBLICATIONS

[1] **Navila: Legged Robot Vision-Language-Action Model for Navigation**
An-Chieh Cheng*, Yandong Ji*, **Zhaojing Yang***, Xueyan Zou, Jan Kautz, Erdem Bıyık, Hongxu Yin, Sifei Liu, Xiaolong Wang
In Submission to ICLR 2025

[2] **Trajectory Improvement and Reward Learning from Comparative Language Feedback**
Zhaojing Yang, Miru Jun, Jeremy Tien, Stuart J. Russell, Anca Dragan, Erdem Bıyık
CoRL 2024

[3] **Collision Avoidance and Navigation for a Quadrotor Swarm Using End-to-end Deep Reinforcement Learning**
Zhehui Huang*, **Zhaojing Yang***, Rahul Krupani, Baskın Şenbaşlar, Sumeet Batra, Gaurav S. Sukhatm
ICRA 2024

AWARDS

Undergraduate Academic Excellence Scholarship (Top 15%) SJTU, 2019

Zhiyuan Honor Program Scholarship (Top 5%) SJTU, 2018

SKILLS

Programming Language: Python, C++, Shell

Machine Learning Tools: PyTorch