

# ZHAOJING YANG

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## EDUCATION

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**University of Southern California**

M.S in Computer Science

Aug 2022 - May 2024

GPA: 4.0 / 4.0

**Shanghai Jiao Tong University**

B.Eng in Computer Science and Technology

Sep 2018 - June 2022

GPA: 3.75 / 4.3

## RESEARCH INTERESTS

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My research interests lies in **Reinforcement Learning and Robotics**. I'm interested in applying learning method to obtain optimal robot policies that can be deployed 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, for example, a general purpose homework robot.

## RESEARCH EXPERIENCES

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**Legged Robot Locomotion with Reinforcement Learning**

*Visiting Researcher, UCSD*

Jun 2024 - Now

*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**

*Research Assistant, USC*

Aug 2023 - Jun 2024

*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**

*Research Assistant, USC*

Nov 2022 - Jun 2023

*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

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- [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*  
*HRI 2024 Human-Interactive Robot Learning Workshop*
- [3] **Collision Avoidance and Navigation for a Quadrotor Swarm Using End-to-end Deep Reinforcement Learning**  
Zehui Huang\*, **Zhaojing Yang\***, Rahul Krupani, Baskın Şenbaşlar, Sumeet Batra, Gaurav S. Sukhatme  
*ICRA 2024*
- [4] **QuadSwarm: A Modular Multi-Quadrotor Simulator for Deep Reinforcement Learning with Direct Thrust Control**  
Zehui Huang, Sumeet Batra, Tao Chen, Rahul Krupani, Tushar Kumar, Artem Molchanov, Aleksei Petrenko, James Alan Preiss, **Zhaojing Yang**, Gaurav S. Sukhatme  
*ICRA 2023 The Role of Robotics Simulators for Unmanned Aerial Vehicles Workshop*

## AWARDS

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Undergraduate Academic Excellence Scholarship (Top 15%)

SJTU, 2019

Zhiyuan Honor Program Scholarship (Top 5%)

SJTU, 2018

## SKILLS

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**Programming Language:** Python, C++, Shell

**Robotics:** ROS, IsaacLab, IsaacGym