

YUANHANG ZHANG

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RESEARCH INTERESTS

My research focuses on advancing robotic loco-manipulation with complex and dynamic physical interaction in the real world. I integrate deep learning and model-based control to achieve agility, adaptivity, and generalizability for robots in cluttered environments.

EDUCATION

Carnegie Mellon University M.S. in Robotic Systems and Development, GPA: 3.81/4.00	Pittsburgh, USA Sep. 2024 – Present
Shanghai Jiao Tong University B.Eng. in Automation, GPA: 3.78/4.3	Shanghai, China Sep. 2019 – Jun. 2023

EXPERIENCE

Amazon, Frontier AI & Robotics (FAR) Applied Scientist Intern • Advisors: Prof. Pieter Abbeel and Dr. Rocky Duan • Topic: perceptive and adaptive humanoid loco-manipulation	San Francisco, CA, USA May 2025 – Present
Carnegie Mellon University Research Assistant • Advisor: Prof. Guanya Shi • Topic: adaptive humanoid whole-body control, aerial manipulation	Pittsburgh, USA Oct. 2024 – Present
Tsinghua University, IIIS Full-Time Research Assistant • Advisor: Prof. Huazhe Xu • Topic: agile and dynamic mobile manipulation with dexterity	Beijing, China Jan. 2024 – Jul. 2024
Shanghai Jiao Tong University Research Intern • Advisor: Prof. Zhongqiang Ren • Topic: multi-agent combinatorial path finding	Shanghai, China Jul. 2023 – Dec. 2023

PUBLICATIONS

* Equal contribution † Corresponding author

- [1] [Under Review 2026] Yuanhang Zhang, Younggyo Seo, Juyue Chen, Yifu Yuan, Koushil Sreenath, Pieter Abbeel, Carmelo Sferrazza, Karen Liu, Rocky Duan, and Guanya Shi. “RPL: Learning Robust Humanoid Perceptive Locomotion on Challenging Terrains”.

- [2] [L4DC 2026 (Oral)] **Yuanhang Zhang**, Yifu Yuan, Prajwal Gurunath, Tairan He, Shayegan Omidshafiei, Ali-akbar Agha-mohammadi, Marcell Vazquez-Chanlatte, Liam Pedersen, and Guanya Shi. “*FALCON: Learning Force-Adaptive Humanoid Loco-Manipulation*”.
- [3] [RSS 2025] Tairan He*, Jiawei Gao*, Wenli Xiao*, **Yuanhang Zhang***, Zi Wang, Jiashun Wang, Zhengyi Luo, Guanqi He, Nikhil Sobanbab, Chaoyi Pan, et al. “*ASAP: Aligning Simulation and Real-World Physics for Learning Agile Humanoid Whole-Body Skills*”.
- [4] [ICRA 2025, **Outstanding Paper Nomination @ CoRL LFDM 2025**] **Yuanhang Zhang**, Tianhai Liang, Zhenyang Chen, Yanjie Ze, and Huazhe Xu. “*Catch It! Learning to Catch in Flight with Mobile Dexterous Hands*”.
- [5] [RSS 2025] Guanqi He*, Xiaofeng Guo*, Luyi Tang, **Yuanhang Zhang**, Mohammadreza Mousaei, Jiahe Xu, Junyi Geng, Sebastian Scherer, and Guanya Shi. “*Flying Hand: End-Effector-Centric Framework for Versatile Aerial Manipulation Teleoperation and Policy Learning*”.
- [6] [CoRL 2025] Yitang Li, **Yuanhang Zhang**, Wenli Xiao, Chaoyi Pan, Haoyang Weng, Guanqi He, Tairan He, and Guanya Shi. “*Hold My Beer: Learning Gentle Humanoid Locomotion and End-Effector Stabilization Control*”.
- [7] [SoCS 2024] **Yuanhang Zhang**, Xuemian Wu, Hesheng Wang, and Zhongqiang Ren. “*Multi-Agent Combinatorial Path Finding with Heterogeneous Task Duration*”.
- [8] [ICRA 2026] Yufeng Tian, Shuiqi Cheng, Tianming Wei, Tianxing Zhou, **Yuanhang Zhang**, Zixian Liu, Zhecheng Yuan, and Huazhe Xu. “*ViTaS: Visual Tactile Soft Fusion Contrastive Learning for Reinforcement Learning*”.

HONORS & AWARDS

- Outstanding Graduate (< 3%), *Shanghai Jiao Tong University* 2023
- Merit Student (< 3%), *Shanghai Jiao Tong University* 2022

COMPETITIONS

- International VEX Robotics Competition** Shanghai, China
 Programming Team Leader @ SJTU VEX Robotics Club [Website] / [2021 Season Reveal] 2020–2022
- 2021 National VEX Robotics Competition: Tournament Champions & Skills Champion (**World Record**).
 - 2021 VEX Robotics Competition Asian Open: Tournament Champions VEXU; Excellence Award.
 - 2021 VEX Robotics Competition China Final: Tournament Champions VEXU; Excellence Award.
- National University IOT Design Competition** Shanghai, China
 ‘HarClass’: A Cloud-Based Distributed System for Smart Classrooms [Video (Chinese)] 2022
- National First Prize & Harmony Innovation Award (**TOP 1%**)

SKILLS

Programming: Python, C/C++, MATLAB, JAVA, LaTeX
Frameworks & Tools: Pytorch, Warp, ROS/ROS2, IsaacGym, IsaacSim/IsaacLab, Mujoco, Gazebo
DevOps: AWS, Docker, SkyPilot, Conda, Jenkins, Weights & Biases
Languages: Chinese (Native), English (TOFEL 107)

SERVICE

- Reviewer, *CoRL*, *ICRA*, *IROS* 2025 – Present