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 — Pittsburgh, USA
M.S. in Robotic Systems and Development, GPA: 3.81/4.00 — Sep. 2024 - Present

Shanghai Jiao Tong University — Shanghai, China
B.Eng. in Automation, GPA: 3.78/4.3 — Sep. 2019 - Jun. 2023

Experience

Amazon, Frontier AI & Robotics (FAR) — San Francisco, CA, USA
Applied Scientist Intern — May 2025 - Present
- Advisors: Prof. Pieter Abbeel and Dr. Rocky Duan
- Topic: perceptive and adaptive humanoid loco-manipulation

Carnegie Mellon University — Pittsburgh, USA
Research Assistant — Oct. 2024 - Present
- Advisor: Prof. Guanya Shi
- Topic: adaptive humanoid whole-body control, aerial manipulation

Tsinghua University, IIIS — Beijing, China
Full-Time Research Assistant — Jan. 2024 - Jul. 2024
- Advisor: Prof. Huazhe Xu
- Topic: agile and dynamic mobile manipulation with dexterity

Shanghai Jiao Tong University — Shanghai, China
Research Intern — Jul. 2023 - Dec. 2023
- Advisor: Prof. Zhongqiang Ren
- Topic: multi-agent combinatorial path finding

Publications

* Equal contribution † Equal advising

[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] [**Under Review** 2026] Wu Zhen*, Xiaoyu Huang*, Lujie Yang*, **Yuanhang Zhang**, Koushil Sreenath, Xi Chen, Pieter Abbeel†, Rocky Duan†, Angjoo Kanazawa†, Carmelo Sferrazza†, Guanya Shi†, and Karen Liu†. "*Perceptive Humanoid Parkour: Chaining Dynamic Human Skills via Motion Matching*".

[3] [**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*".

[4] [**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*".

[5] [**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*".

[6] [**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*".

[7] [**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*".

[8] [**SoCS** 2024] **Yuanhang Zhang**, Xuemian Wu, Hesheng Wang, and Zhongqiang Ren. "*Multi-Agent Combinatorial Path Finding with Heterogeneous Task Duration*".

[9] [**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