

Yuanhang Zhang

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Education

Carnegie Mellon University

M.S. IN ROBOTICS, GPA: 3.96

Pittsburgh, USA

Aug. 2024 - Present

Shanghai Jiao Tong University

B.S. IN AUTOMATION, GPA: 3.78

Shanghai, China

Aug. 2019 - Jun. 2023

Research Interest

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. I am also interested in large scale planning in multi-robot systems.

Experience

Amazon, Frontier AI & Robotics (FAR)

APPLIED SCIENTIST INTERN, ADVISED BY [PIETER ABBEEL](#) AND [ROCKY DUAN](#)

- **Topic:** perceptive and adaptive humanoid loco-manipulation

San Francisco, USA

May. 2025 - Present

Carnegie Mellon University

RESEARCH ASSISTANT AT [LECAR LAB](#), ADVISED BY [GUANYA SHI](#)

- **Topic:** adaptive humanoid whole-body control, aerial manipulation

Pittsburgh, USA

Oct. 2024 - Present

Shanghai Qi Zhi Institute

RESEARCH ASSISTANT, ADVISED BY [HUAZHE XU](#)

- **Topic:** agile and dynamic mobile manipulation with dexterity

Shanghai, China

Dec. 2023 - Jun. 2024

Shanghai Jiao Tong University

RESEARCH INTERN AT [RAP LAB](#), ADVISED BY [ZHONGQIANG REN](#)

- **Topic:** multi-agent combinatorial path finding

Shanghai, China

Jul. 2023 - Nov. 2023

Publications (*equal contribution)

PREPRINTS

[P2] FALCON: Learning Force-Adaptive Humanoid Loco-Manipulation.

Yuanhang Zhang, Yifu Yuan, Prajwal Gurunath, Tairan He, Shayegan Omidshafiei, Ali-akbar Agha-mohammadi, Marcell Vazquez-Chanlatte, Liam Pedersen, Guanya Shi

Under review, 2025 [\[Paper\]](#)

[P1] ViTaS: Visual Tactile Soft Fusion Contrastive Learning for Reinforcement Learning.

Yufeng Tian*, Shuiqi Cheng*, Tianming Wei, Tianxing Zhou, [Yuanhang Zhang](#), Zixian Liu, Zhecheng Yuan, Huazhe Xu

Under review, 2025 [\[Paper\]](#)

CONFERENCE PROCEEDINGS

[C5] ASAP: Aligning Simulation and Real-World Physics for Learning Agile Humanoid Whole-Body Skills.

Tairan He*, Jiawei Gao*, Wenli Xiao*, [Yuanhang Zhang](#)*, Zi Wang, Jiashun Wang, Zhengyi Luo, Guanqi He, Nikhil Sobanbab, Chaoyi Pan, Zeji Yi, Guannan Qu, Kris Kitani, Jessica Hodgins, Linxi "Jim" Fan, Yuke Zhu, Changliu Liu, Guanya Shi

RSS, 2025 [\[Paper\]](#)

[C4] Catch It! Aligning Simulation and Real-World Physics for Learning Agile Humanoid Whole-Body Skills.

[Yuanhang Zhang](#)*, Tianhai Liang*, Zhenyang Chen, Yanjie Ze, Huazhe Xu

ICRA, 2025 [\[Paper\]](#)

CoRL LFDM Workshop (*Outstanding Paper Nomination*), 2024

[C3] Hold My Beer: Learning Gentle Humanoid Locomotion and End-Effector Stabilization Control.

Yitang Li, [Yuanhang Zhang](#)*, Wenli Xiao, Chaoyi Pan, Haoyang Weng, Guanqi He, Tairan He, Guanya Shi

CoRL, 2025 [\[Paper\]](#)

[C2] Flying Hand: End-Effector-Centric Framework for Versatile Aerial Manipulation Teleoperation and Policy Learning.

Guanqi He*, Xiaofeng Guo*, Luyi Tang, Yuanhang Zhang, Mohammadreza Mousaei, Jiahe Xu, Junyi Geng, Sebastian Scherer, Guanya Shi
RSS, 2025 [Paper]

[C1] Multi-Agent Combinatorial Path Finding with Heterogeneous Task Duration.

Yuanhang Zhang, Xuemian Wu, Hesheng Wang, Zhongqiang Ren
SoCS, 2024 [Paper]

Honors & Awards (selected)

2024	Outstanding Paper Nomination , CoRL LFDM Workshop	Munich, German
2023	Outstanding Graduate (Top 3%) , Shanghai Jiao Tong University	Shanghai, China
2022	Merit Student (Top 3%) , Shanghai Jiao Tong University	Shanghai, China

Projects (selected)

Autonomous Humanoid Tote Logistics

CMU MRSD CAPSTONE PROJECT, SPONSORED BY NISSAN AND FIELD AI

- Achieved robust lower body navigation and upper body IK-based manipulation on humanoid robots.
- Leveraged Foundation Pose for tote detection and pose estimation.

Pittsburgh, USA

Sep. 2024 - Present

Perception-constrained Visual Servoing Based NMPC for Quadrotor Flight

UNDERGRADUATE THESIS [VIDEO], ADVISED BY HESHENG WANG

- Incorporated quadrotor dynamics and visual feature dynamics into NMPC to enable the quadrotor to flight purely based on visual information without localization.

Pittsburgh, USA

Feb. 2023 - Jun. 2023

Competitions (selected)

International VEX Robotics Competition

SJTU-VEX PROGRAMMING TEAM LEADER. [TEAM WEBSITE] / [2021 SEASON REVEAL]

- 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.

Shanghai, China

Mar. 2020 - Jul. 2022

National University IOT Design Competition

'HARCLASS': A CLOUD-BASED DISTRIBUTED SYSTEM FOR SMART CLASSROOMS. [VIDEO]

- National First Prize & Harmony Innovation Award (TOP 1%)

Shanghai, China

Jun. 2022 - Sep. 2022

Academic Services

Reviewer CoRL, ICRA, IROS, 2025 - Present

Skills

Programming	Python, C/C++, MATLAB, JAVA, LaTeX
Framework	Pytorch, Warp, ROS/ROS2, IsaacGym, IsaacSim/IsaacLab, Mujoco, Gazebo, Airsim
DevOps	AWS, Docker, SkyPilot, Conda, Jenkins, Weights & Biases, Tensorboard
Robots	Agilex Ranger Mini V2, XArm, LEAP Hand, Unitree G1, Booster T1

Press Coverage (selected)

[PC1] **Video Friday: Robot Battlefield Triage Your Weekly Selection of Awesome Robot Videos.**
FALCON, by Evan Ackerman, IEEE Spectrum, 2025 [Link]