

Yuanhang Zhang

✉ yuanhanz@andrew.cmu.edu | 🌐 yuanhangz.com | 📷 hang0610 | 🌐 yuanhangz | 🎓 Yuanhang Zhang

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! Learning to Catch Objects in Flight with Mobile Dexterous Hands.

[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 Pittsburgh, USA
CMU MRSD CAPSTONE PROJECT, SPONSORED BY [NISSAN](#) AND [FIELD AI](#) Sep. 2024 - Present

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

Perception-constrained Visual Servoing Based NMPC for Quadrotor Flight Pittsburgh, USA
UNDERGRADUATE THESIS [\[VIDEO\]](#), ADVISED BY [HESHENG WANG](#) Feb. 2023 - Jun. 2023

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

Competitions (selected)

International VEX Robotics Competition Shanghai, China
SJTU-VEX PROGRAMMING TEAM LEADER. [\[TEAM WEBSITE\]](#) / [\[2021 SEASON REVEAL\]](#) Mar. 2020 - Jul. 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. [\[VIDEO\]](#) Jun. 2022 - Sep. 2022

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

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 [\[Link\]](#)