Jiahui Yang

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EDUCATIONS

Carnegie Mellon University (CMU), Pittsburgh, USA *Aug 2023 - Present*
M.Sc. in Robotics, School of Computer Science GPA 4.14/4.0

Massachusetts Institute of Technology (MIT), Cambridge, USA *Aug 2021 - Jun 2022*
Exchange Student, School of Engineering GPA 5.0/5.0

Southern University of Science and Technology (SUSTech), Shenzhen, China *Aug 2019 - Jun 2023*
B.Eng. in Robotics Engineering (Summa Cum Laude), College of Engineering GPA: 3.94/4.0 Rank: 1/66

PUBLICATIONS

* denotes equal contribution

[1] Deep Reactive Policy: Learning Reactive Manipulator Motion Planning for Dynamic Environments
Jiahui Yang*, Jason Jingzhou Liu*, Yulong Li, Youssef Khaky, Kenneth Shaw, Deepak Pathak
Conference on Robot Learning (CoRL) 2025 [Website] [PDF]
Best Paper Award at LeaPRiDE Workshop

[2] Neural MP: A Generalist Neural Motion Planner
Murtaza Dalal*, **Jiahui Yang*,** Russell Mendonca, Youssef Khaky, Ruslan Salakhutdinov, Deepak Pathak
International Conference on Intelligent Robots and Systems (IROS) 2025 [Website] [PDF]
Best Student Paper Award Winner, Best Paper Award Finalist

[3] Bimanual Dexterity for Complex Tasks
Kenneth Shaw*, Yulong Li*, **Jiahui Yang,** Mohan Kumar Srirama, Ray Liu, Haoyu Xiong, Russell Mendonca†, Deepak Pathak†
Conference on Robot Learning (CoRL) 2024 [Website] [PDF]

[4] A lightweight high-voltage boost circuit for soft-actuated micro-aerial-robots
Zhijian Ren, **Jiahui Yang,** Suhan Kim, Yi-Hsuan Hsiao, Jeffrey Lang, Yufeng Chen
IEEE International Conference on Robotics and Automation (ICRA) 2023 [PDF]

[5] Coordinated Defense Allocation in Reach-Avoid Scenarios with Efficient Online Optimization
Junwei Liu, Zikai Ouyang, **Jiahui Yang,** Hua Chen, Haibo Lu, Wei Zhang
arXiv 2023 [PDF]

[6] Parallel connecting rod mode switching parallel clamp coupling self-adaptive robot finger device
Jiahui Yang, Wenzeng Zhang
China Invention Patent CN113954111B [PDF]

RESEARCH EXPERIENCES

Research Assistant at CMU **Pittsburgh, USA**
Advisor: Prof. Deepak Pathakd and Prof. Ruslan Salakhutdinov *Oct 2023 - Present*

➢ **Neural MP: A Generalist Neural Motion Planner**

- Developed a pipeline of generating large-scale collision-free motion trajectories and distilled them into a generalist neural motion planner, which outperforms SOTA sampling, optimization and learning based planning methods by 23%, 17% and 79%. The policy achieved 95.83% success rate on evaluation tasks and could generalize to a broad set of unseen real-world environments. Co-first-authored paper selected as Best Student Paper Winner at IROS 2025.

➢ **Deep Reactive Policy**

- Building on Neural MP, further refined the learning pipeline by incorporating a locally reactive controller

for online finetuning, leading to substantial performance gains over the pretrained model. This produced a more robust and highly reactive motion planner. First-authored paper accepted to CoRL 2025.

➢ **Dexterous Bimanual Teleoperation System for Complex Tasks**

- Developed an extremely dexterous, low-cost, low-latency and portable bimanual teleoperation system which relies on motion capture gloves and teacher arms. Co-authored paper accepted to CoRL 2024.

Research Assistant at Soft and Micro Robotics Laboratory (SMRL), MIT **Cambridge, USA**
Advisor: Prof. Kevin Chen *Jan 2022 - Jun 2022*

➢ **A lightweight high-voltage boost circuit for soft-actuated micro aerial robots**

- Developed a lightweight (120mg) power circuit to convert 7.7V DC input into a 600V and 400Hz output for driving a 300mg aerial robot. Co-authored paper accepted to ICRA 2023.

Summer Intern at Zhang lab, Tsinghua University **Beijing, China**
Advisor: Prof. Wenzeng Zhang *Jun 2021 - Aug 2021*

➢ **Dual-Mode Underactuated Robot Gripper Design**

- Proposed a dual-mode robot gripper that can switch between parallel pinching mode and coupled grasping mode, enabled it to handle diverse manipulation scenarios. Published as an invention patent.

Research Assistant at Control & Learning for Robotics and Autonomy Lab (CLEAR) **Shenzhen, China**
Advisor: Prof. Wei Zhang *Aug 2020 - May 2023*

➢ **Wheel-Legged Hybrid Robot Locomotion (Bachelor's Thesis)**

- Developed control framework for the wheel-legged quadrupedal robot to maneuver in wheel-foot mode and point-foot mode to tackle different locomotion environments.

➢ **Coordinated Defense Allocation in Reach-Avoid Scenarios with Efficient Online Optimization**

- Investigated a dual-layer online optimization strategy for defender robots operating in multiplayer reach-avoid games within general convex environments.

HONORS AND AWARDS

Best Student Paper Award, IROS 2025 *Oct 2025*

Best Paper Award Finalist, IROS 2025 *Oct 2025*

Best Paper Award, LeaPRiDE Workshop IROS 2025 *Sep 2025*

Top 10 Summa Cum Laude Graduates, College of Engineering, SUSTech (Top 1%) *Jun 2023*

Best student of the year in Zhicheng College, SUSTech (Top 0.5%) *Sep 2022*

MIT & SUSTech Special Student Scholarship, MIT & SUSTech ($ 72,500, Top 0.1%) *Sep 2021*

Finalist Prize in the Interdisciplinary Contest in Modeling competition (Top 1% among 26,000 teams) *Jan 2021*

First Class Merit Scholarship, SUSTech (Top 5%) *Sep 2020 & Sep 2021*

Excellence Freshman Scholarship, SUSTech *Sep 2019*

SKILLS

Programming: Python, C++, C, JAVA, HTML
Tools: ROS, Pytorch, Matlab, PyBullet, IsaacGym, IsaacSim, MuJoCo, Git, LATEX
Hardware: Solidworks, Arduino, Altium Designer, Laser-cutting, 3D Printing, Soldering