JIAZHEN LIU

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Research Interests

multi-robot systems, optimization, structured robot learning

Education

Georgia Institute of Technology   **Atlanta, GA**
Ph.D. in Robotics, Advisor: Prof. Harish Ravichandar   *Aug. 2023 - Present*

University of Pennsylvania   **Philadelphia, PA**
M.S. in Computer and Information Science   *Sept. 2021 - May. 2023*

The Chinese University of Hong Kong, Shenzhen (CUHKSZ)   **Shenzhen, China**
Bachelor of Engineering in Computer Science and Engineering, First Class Honours   *Sept. 2017 - May. 2021*

Publications

1. Jain, S.A., **Liu, J.**, Kailas, S., & Ravichandar, H. (2025). JaxRobotarium: Training and Deploying Multi-Robot Policies in 10 Minutes. [CoRL 2025, Poster]

2. Li, P., Wu, Y., **Liu, J.**, Sukhatme, G.S., Kumar, V., & Zhou, L. (2025). Resilient Multi-Robot Target Tracking with Sensing and Communication Danger Zones. [IROS 2025, **Finalist for the Best RoboCup Paper Award**]

3. **Liu, J.***, Neville, G.*, Chernova, S., & Ravichandar, H. (2024). Q-ITAGS: Quality-Optimized Spatio-Temporal Heterogeneous Task Allocation with a Time Budget. [ISRR 2024]

4. **Li, J.***, Li, P.*, Wu, Y., Sukhatme, G. S., Kumar, V., & Zhou, L. (2024). Multi-Robot Target Tracking with Sensing and Communication Danger Zones. [DARS 2024, **Best Paper Nomination**]

5. **Liu, J.**, Zhou, L., Ramachandran, R., Sukhatme, G. S., & Kumar, V. (2022). Decentralized Risk-Aware Tracking of Multiple Targets. [DARS 2022]

6. Zahroof, R.*, **Liu, J.***, Zhou, L., & Kumar, V. (2022). Multi-Robot Localization and Target Tracking with Connectivity Maintenance and Collision Avoidance. [ACC 2023]

7. Hu, P., **Liu, J.**, Cao, T., & Huang, R. (2021, July). Reinforcement Learning Based Automatic Personal Mashup Generation. [ICME 2021]

* Denotes equal contributions

Research Experience

STAR Lab   **Georgia Tech**
PhD student, Advisor: Prof. Harish Ravichandar   *Aug. 2023 - Present*
- Contributed algorithms for quality-optimized black-box multi-robot task allocation

GRASP Lab   **UPenn**
Research Assistant, Advisor: Prof. Vijay Kumar and Prof. Lifeng Zhou   *Sept. 2021 - May. 2023*
- Focused on multi-robot target tracking and coverage control
- Designed algorithms/frameworks for multi-robot target tracking in risky and uncertain environments

Computer Vision Lab   **CUHKSZ**
Undergraduate Research Assistant, advisor: Prof. Rui Huang   *Jan. 2019 - Mar. 2021*
- Worked on pedestrian re-id, Multi-Target Multi-Camera Tracking (MTMCT) and Multiple Object Tracking (MOT)

Work Experience

Algorithm Software Engineer   **Shenzhen, China**
Tencent Technology (Shenzhen) Co., Ltd   *Mar. 2021 - July. 2021*
- Designed generalizable, automatic post-processing algorithms for game character skinning

Undergraduate Teaching Assistant   **Shenzhen, China**
School of Data Science, CUHKSZ   *Sept. 2019 - May. 2020*
- TA-ed General Chemistry (Fall 2019), C++ and Programming Paradigms (Spring 2020).

Professional Service

Volunteer Manager for ICRA 2025
Reviewer for IROS2023, ICRA 2024, ICRA 2025, RSS 2025, CoRL 2025, Transactions on Mechatronics, RAL

Technical Skills

Languages: Python, C++/C, SQL, MATLAB
Tools and Frameworks: ROS, OMPL, Gazebo, RViz, PyTorch, Tensorflow, LaTeX, Maya, Gurobi, git
Hardware Experience: Turtlebot, Crazyflie