Jiuzhou Lei

412-330-7227 jiuzl1379@gmail.com google scholar https://rollingoat.github.io/

Education

Texas A&M University **Aug. 2025 – Present**
Ph.D. Student in Mechanical Engineering, advised by Dr. Minghui Zheng *College Station, TX*
Research Area: robot learning for autonomy and manipulation

University of Pennsylvania **Aug. 2021 – May 2023**
Master of Science in Robotics, advised by Dr. Vijay Kumar *Philadelphia, PA*
Research Area: robot perception and multi-robot system

University of Pittsburgh **Aug. 2019 – May 2021**
Bachelor of Science in Mechanical Engineering *Pittsburgh, PA*

Sichuan University **Sep. 2017 – June 2019**
Bachelor of Engineering in Mechanical Engineering *Chengdu, China*

Research and Work Experience

Graduate Research Assistant **Aug. 2025 -Present**
Texas A&M University, CtrlRobot Lab *College Station, TX*

- Conduct end-to-end research on robot learning for robot autonomy and manipulation, spanning VLA, world-action models, and reinforcement learning, from problem formulation and data collection through model training, system integration, and deployment on physical robots.

Research Staff **July 2023 - June 2025**
University of Pennsylvania, Kumar Robotics Lab *Philadelphia, PA*

- Initiated and developed research projects from conceptualization to publication on topics of semantic mapping and autonomous navigation with applications in agriculture.
- Developed the LiDAR-only autonomous flight feature for quadrotors.
- Built perception pipelines for long-term agricultural monitoring and autonomy stacks for multi-robot systems, integrating LiDAR/vision perception, semantic mapping, and localization for real-time field deployment.

Publications & Preprints

- **Jiuzhou Lei**, et al. Learning When to See and When to Feel: Adaptive Vision-Torque Fusion for Contact-Aware Manipulation. IROS 2026, code available here
- Hao Wang, **Jiuzhou Lei**, et al. Behavior Uncloning: Distilling Mode Redirection into Policy Weights without Inference-Time Steering. CoRL 2026, code available here
- **Jiuzhou Lei**, et al. RoboIRS: Inference-Time Internal Representation Steering for Generalist Robot Policies. Under Review. code available here
- **Jiuzhou Lei**, et al. Spatio-Temporal Metric-Semantic Mapping for Persistent Orchard Monitoring: Method and Dataset, Robotics and Automation Letter. code available here
- Xu Liu*, **Jiuzhou Lei***, Ankit Prabhu*, et al. SlideSLAM: Sparse, Lightweight, Decentralized Metric-Semantic SLAM for Multi-Robot Navigation, Transaction on Robotics, code available here (* authors contribute equally)
- Dayou Li, **Jiuzhou Lei**, et al. Learning Actionable Manipulation Recovery via Counterfactual Failure Synthesis. arXiv preprint arXiv:2603.13528, 2026, code available here
- Ankit Prabhu*, Xu Liu*, Igor Spasojevic, Yuwei Wu, Yifei Shao, Dexter Ong, **Jiuzhou Lei**, Corey Green, Pratik Chaudhari, Vijay Kumar, UAVs for forestry: Metric-semantic mapping and diameter estimation with autonomous aerial robots. Mechanical Systems and Signal Processing, 208, 111050.

Technical Skills

Programming: Python, C++
Tools/Frameworks: Git, ROS, ROS2, PyTorch, CMake, Linux, Docker