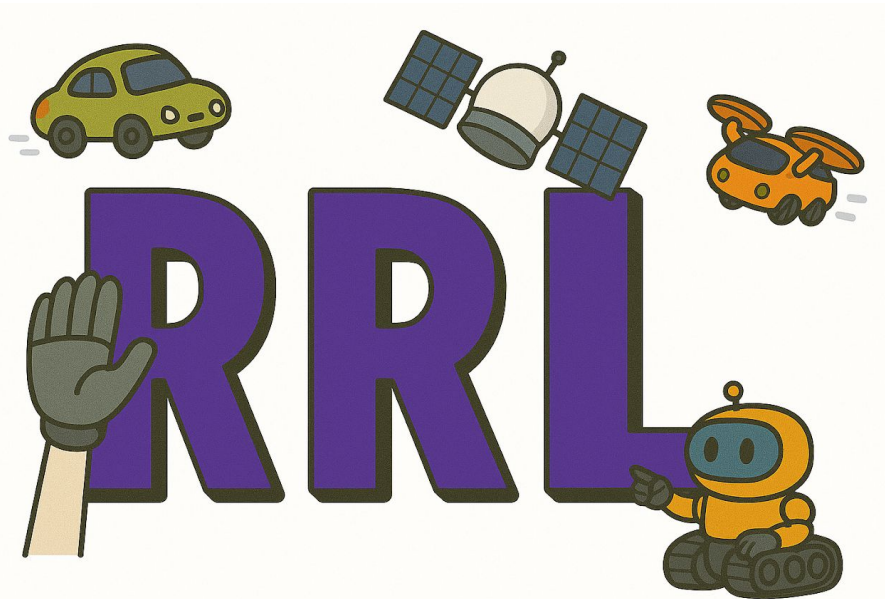


RRL Group Meeting

9/4/2025

Introductions

- Ben Riviere (PI)
- Sam Bodmer (PhD)
- Rika Valluri (MS Project)
- Amrapali Khandare (MS Project)
- Hrishitaa Kurchania (MS Project)
- Zehao Li (Part time)
- (most likely another full time person joining November 1)



Two-Part RRL Mission Statement

Part 1: We design algorithms that make AI robots more performant, robust, and interpretable. We have a focus in real-time planning algorithms.

Part 2: We advance AI robots in space applications:

- In-orbit servicing, assembly, and manufacturing (ISAM)

- Active space debris removal

- Small body exploration

Goal for this quarter: Train a model in simulation, and deploy it on the robot!

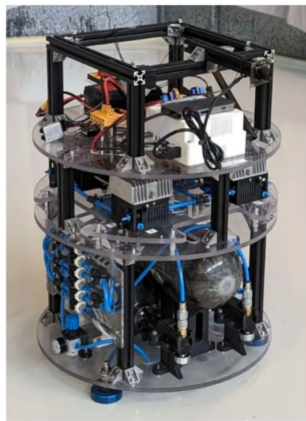
Fall 2025 Plan: Train model in Sim, Deploy on Real Robot

Team 1: ATMOS
Hrshitaa / Zehao /
Sam

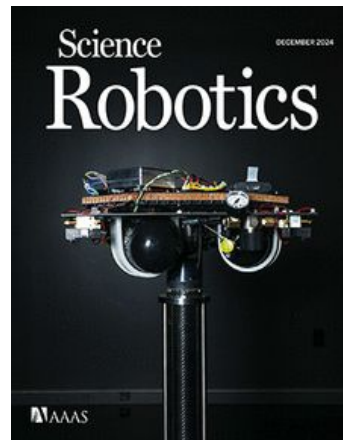
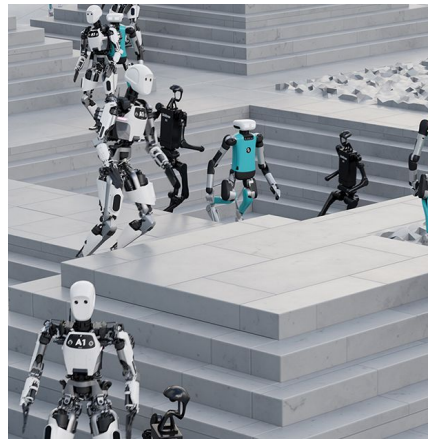
Team 2: WidowX AI
Amrapali / Sam

Team 3 IsaacSim:
Rika / Sam

Team 4: Lab Space
Ben



ROS



Team 1 (ATMOS) Tasks

Deliverable	Details	Due Dates
BOM / Order parts	US vs EU parts?	9/12
Assembly/Testing	Hardware in the loop SIM testing Dry tests (no air) Wet tests (on whiteboard before epoxy floor is ready)	10/31
Integration with Team 2	One computer controlling thrusters and arms	End of Semester
Integration with Team 3	Test Team 3's policy	End of Semester
Research	ML for Spacecraft	End of Semester

Team 2 (WidowX AI) Tasks

Deliverable	Details	Dates
Pick Manipulator Model	Arm model research - is there a robot file for the model? are there examples of people integrating with IsaacSim? Does it fit on ATMOS? Does it weigh too much for ATMOS?	9/12
Assembly/Testing		9/30
Integration with Team 1	Ros2?	End of Semester
Integration with Team 3		End of Semester
Research	ML for Manipulation	End of Semester

Team 3 (IsaacSim) Tasks

Deliverable	Details	Dates
Pick a simulator	IsaacSIM, MujocoMJX, etc. <ul style="list-style-type: none">- We want GPU compatibility- We probably want rendering (IsaacSim)- We want RL library compatibility (Gymnasium)	9/12
Model spacecraft in orbital mission and in lab space		9/30
Model arm in isolated environment (work with Team 2)		End of Semester
Model / train policy for mobile manipulator		End of Semester

Weekly Meeting Times

When to meet?

Weekly meetings 10am thursday (ben)

Priority: shopping list

CREO access (ben)

Docs page (ben)

Internal meetings (student led organization)

Deadline: December 11th for joystick control + model eval on mobile manipulator for inauguration day