

Robotic Mobility Development Intern – Fall 2025 / Spring 2026

Overview

Support design and testing of robotic locomotion and manipulation subsystems for lunar rovers and ISRU platforms. Collaborate with robotics engineers on algorithm development and hardware integration.

Key Responsibilities

- Develop and refine kinematic/dynamic models for rover wheel modules and robotic arms using MATLAB/Simulink and ROS.
- Implement and test mobility control algorithms (traction control, slip compensation) in simulation (Gazebo) and on lab hardware.
- Assist in mechanical integration tasks: select actuators, design mounts, generate wiring diagrams, and support assembly.
- Participate in field trials within Cislune's regolith testbed: collect performance data, refine wheel-soil interaction models, and document findings.
- Support instrumentation of robotic arms: integrate sensors (torque, force) and validate control loops for manipulation tasks.

Required Qualifications

- Enrolled in Mechanical, Robotics, or Aerospace Engineering program.
- Proficiency in ROS, Python/C++, and MATLAB for robotics modeling and control.
- Hands-on experience with embedded controllers (Arduino, STM32, or similar) and motor driver integration.
- Familiarity with CAD modeling of robotic components (SolidWorks, Fusion 360).
- Exceptional problem-solving skills and ability to summarize technical results.

Preferred Qualifications

- Prior exposure to field robotics or analog-environment testing (regolith bin or sandpit).

- Knowledge of robotic arm kinematics, URDF modeling, and inverse kinematics solvers.

Duration & Compensation

- Full time (35-40hr/week) from August 25 to December 15, 2025 (Fall) or January 15 to May 1, 2026 (Spring).
- \$22/hour; access to Cislune's lunar analog test facility; potential travel stipend for external field tests.