

Ian Spehar, E.I.

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Education

Oregon State University, Corvallis

M.S. in Mechanical Engineering, Robotics Minor

June 2026

B.S. in Mechanical Engineering, Spanish Minor

June 2024

University of Salamanca, Spain

Study Abroad, Spanish Language and Culture Studies

September 2023 - December 2023

Experience

Master's Thesis - Autonomous Robotic Additive Manufacturing

September 2024 - June 2026

OSU Plasma, Energy, and Space Propulsion Lab (Dr. Richard Wirz)

- Developed a Python automation framework that synchronized KUKA robot motion, laser power, and wire feed with sub-millimeter precision for autonomous laser directed energy deposition.
- Established a scalable additive manufacturing workflow by designing adaptive toolpath generation and process-control algorithms that automated parameter scheduling across experiments.
- Established a machine learning dataset generation pipeline by synchronizing and logging robot position, velocity, and manufacturing process parameters during additive manufacturing experiments.

OSU Mars Rover Team

September 2024 - February 2026

Software Subteam

- Enabled autonomous rover navigation by developing a modular ROS 2/Gazebo simulation framework integrating LiDAR-based obstacle avoidance, computer vision perception, and navigation nodes.
- Overhauled rover mobility in simulated competition environments by implementing a Bug-based obstacle avoidance algorithm and integrating waypoint navigation into the ROS 2 navigation stack.

Oregon State University - Information Technology Services

August 2021 - Present

IT Technician

- Provide first-line technical support to students and university staff by diagnosing and resolving hardware, software, and account issues across campus systems
- Strengthen team performance and operational efficiency by personally training 10+ new employees per term in troubleshooting and customer support

Skills

Programming & Robotics: Python, ROS, ROS2, C++, Matlab, Linux, G-Code

Engineering Software: SolidWorks, COMSOL, EES, Excel

Certifications and Achievements

Engineering Intern (E.I.) License: Passed the FE Mechanical Exam — OSBEELS License ID: 2439231

Activities

OSU Tau Beta Pi Chapter (Engineering Honors Society)

May 2022 - Present