

# Ian Spehar, EI

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## Education

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*Oregon State University, Corvallis*

**M.S. in Mechanical Engineering, Robotics Minor**

Grad Date: June 2026

GPA: 3.65

**B.S. in Mechanical Engineering, Spanish Minor**

June 2024

*University of Salamanca, Spain*

Study Abroad, Spanish Language and Culture Studies

Fall 2023

## Experience

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**Robotic Feedback Control for Additive Manufacturing**

September 2024 - Present

Master's Thesis

- Conducting research under the supervision of Dr. Richard Wirz on the use of robotics in the manufacturing of plasma-resistant materials, supporting fusion power development
- Developing machine learning algorithms integrated with control code to dynamically adjust manufacturing parameters in real time, optimizing part quality and production efficiency

**OSU Mars Rover Team**

September 2024 - Present

Software Engineer

- Develop autonomous navigation algorithms for the rover, enabling obstacle detection, path planning, and real-time decision-making
- Integrate ROS-based programs to coordinate sensor data, decision-making processes, and hardware actuation

**Painting Robot**

September - December 2024

- Developed Python software for a Kinova robot arm, "Pollock," to autonomously convert digital images into artistic brush strokes
- Created the core algorithm to analyze and translate image contours into sequenced brush stroke commands, using advanced pathing logic to successfully replicate online images through painting

## Projects

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**RC Car Personal Project**

- Designed and built an RC car from scratch, utilizing a Raspberry Pi for control and automation
- Designed and manufactured the car's chassis and steering mechanism, creating a custom solution for precise control and durability

## Skills

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**Programming:** Python, ROS, C++, Linux, Matlab

**Engineering Software:** SolidWorks, COMSOL, EES, Excel

## Certifications and Achievements

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**Engineering Intern (EI)** - Passed Mechanical FE Exam, received certification from state board of Oregon

## Activities

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**OSU Tau Beta Pi Chapter (Engineering Honors Society)**

May 2022 - Present