

ISABELLA ROSENSTEIN

alrosenstein@wpi.edu 

Github 

LinkedIn 

Portfolio 

EDUCATION

Worcester Polytechnic Institute (WPI),
Masters of Science in Robotics Engineering (Thesis)
Bachelor of Science in Robotics Engineering

Class of 2025

Class of 2024

EXPERIENCE

- **Symbotic Inc.** *January - May 2025*
Robotics Test Co-Op Willmington, MA
 - Designed, developed, and tested a computer vision system that automates measurement taking using April Tags, GoPros, OpenCV and other open source code. [GitHub](#) 
 - Wrote Python scripts to conduct tests for warehouse robot software, hardware, and mechanical design.
 - Developed MQTT communication protocol & designed PCBs for life test fixtures.
- **WiTricity Co.** *April - Sept. 2023*
Mechanical Engineering Intern Watertown, MA
 - Re-designed pedestal that holds electronics for EV charging station for easier installation and less electromagnetic interference
 - Automated a parking accuracy test using computer vision and location tracking principles
 - Created and edited SolidWorks drawings of cable assemblies
- **WPI's Prototyping Lab** *Jan. 2021 - Jan. 2025*
Makerspace Lab Technician and Technician Manager Worcester, MA
 - Repair and maintain 30 3D Printers, 3 laser cutters, and a water jet
 - Designed and manufactured custom aftermarket printer parts to increase reliability and up-time
 - Trained 10+ staff and 100+ students on printers and laser cutters

PROJECTS

- **Privacy-Preserving, Decentralized Algorithm to Skilled Multi-Robot Task Allocation Problem** *Summer 2024 - Fall 2025*
Master's Thesis Project [GitHub](#) 
 - Agents must coordinate and collaborate on different tasks and reach consensus on a solution while maintaining confidentiality
 - Applied symmetric and asymmetric encryption to the usage of skills in a decentralized manner, making the solution privacy-preserving.
- **Symbiotic Multi-Agent Construction** *Fall 2023 - Spring 2024*
Capstone Project Final Demo  & Paper 
 - Designed, built, and programmed an inchworm robot to manipulate smart construction blocks.
 - Programmed build-algorithm using inverse kinematics that calculates necessary steps to construct user-defined structure
 - Designed modular inchworm chassis and self-centering end-effectors to improve the inchworms movement and placement of blocks
- **Self-Navigating Robot** *Spring 2023*
Robotics Class Project [Github](#) 
 - Programmed untethered robot to navigate and map through unknown field
 - Used ROS for robot communication, implemented SLAM to localize and map robot location, and programmed different path-planning algorithms (e.g. A*) to calculate the best trajectory

SKILLS

- **Programming:** Python, C/Arduino, Git & GitHub, Linux, ROS & ROS2, MATLAB, Latex, Verilog, C++
- **CAD:** SolidWorks, Creo, Fusion 360, Inventor
- **Machines:** 3D Printers (Prusa, Ultimaker, Lulzbot Taz, Bambu), Laser cutter, Water jet, Mill

LEADERSHIP ROLES

- **White Water Rafting Guide,** All-Outdoors, Coloma CA *June - August 2025*
 - Take customers down Class III rapids on the South Fork of the American River
- **Officer-at-Large,** Outing Club, WPI *March 2023 - May 2024*
 - Plan & coordinate rock climbing, hiking, and backpacking trips with students and WPI staff

ACHIEVEMENTS

- **Robert Fellman Memorial Scholarship,** Dickens Essay Contest, Worcester Dickens Fellowship *Dec 2020*