

BRYCE MCKINLEY

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Groton, MA

[LinkedIn Profile](#)

SKILLS

Programming: Python, Java, MATLAB, C++, C, Robot-C, Racket, Matlab, JavaScript

Software: SolidWorks, Mathcad, Git, Jira, Robot Operating System (ROS & ROS2), Ubuntu Linux, Gazebo Simulator, RViz, Scene Builder, Qt, Artificial Intelligence, Machine Learning

Robotics: Actuation, Manipulation, Sensing, Navigation

General: Scrum Workflow, Front-End GUI Development, Embedded Application Development, 3D Printing, Laser Cutting, Networking

EDUCATION

Worcester Polytechnic Institute (WPI), Worcester, MA

May 2025

Bachelor of Science, Dual Major, Robotics Engineering and Computer Science.

GPA 3.69/4.0

INTERNSHIP

MITRE - Emerging Technology Student R&D, McLean VA

Jun. - Aug. 2024

- Served as a technical aide in the Mobile Autonomous Systems Experimentation (MASE) Lab as a part of the Emerging Technologies program.
- Developed a system health monitoring RViz plugin utilizing C++ and a Qt interface.
- Designed exterior and interior indicator lights to be mounted on the DART autonomous vehicle.

ACADEMIC PROJECTS

WPI Sailbot, Worcester, MA

Aug. 2024 - May 2025

- Developed and improved features for the WPI Sailbot, a 2 meter autonomous sailboat.
- Upgraded control application for simulation and expanded navigation to utilize computer vision.
- Helped to implement a new electrical system, replace the wingsail, and introduce motion dampening.

Color Sorting Arm, Worcester, MA

Jan. - Mar. 2024

- Using a camera and a checkerboard of known size, implemented HSV image segmentation to isolate and target individual colored balls.
- In Matlab, coded a robotic arm, controlled with inverse kinematics calculated through the Denavit-Hartenberg convention, to grab and sort balls.

Autonomous Mapping, Worcester, MA

Oct. - Dec. 2022

- Utilizing Python and ROS Noetic mapped an unknown field with LiDAR by identifying frontiers, calculating c-space, and navigating with A*. Utilized Monte Carlo localization in the completed map.

Kiosk Application, Worcester, MA

Mar. - May 2023

- Specialized in front-end in a group of ten software engineers designing a prospective informational kiosk application for use at Brigham and Women's Hospital.
- Utilized engineering practices such as Jira, Scrum, and weekly sprints to ensure efficient workflow.

WORK EXPERIENCE

- **Lowe's:** Outside Lawn & Garden Sales Associate, Lowell, MA

May - Aug. 2022

ACTIVITIES AND INTERESTS

Mechanical Team Lead for Team 1277, FIRST Robotics

2020 - 2021

Competitive Climbing Club, WPI

2021 - Present

AWARDS AND ACCOMPLISHMENTS

WPI Dean's List

2023 - 2024

National Honor Society

May 2020

BSA Eagle Scout Award

Sept. 2020