Wyatt Harris

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EDUCATION

MS Robotics Engineering, Worcester Polytechnic Institute, GPA 4.0, Graduation Date May 2026
Relevant Coursework: Robot Dynamics, Reinforcement Learning, Deep Learning, Robot Control
BS Robotics Engineering, Worcester Polytechnic Institute, GPA 3.97, Graduation Date May 2025
Relevant Coursework: Robot Navigation, Robot Manipulation, Software Engineering, Embedded Systems
Activities: Rho Beta Epsilon Honors Society, Phi Kappa Theta, Ultimate Frisbee

SKILLS

Python, ROS, Matlab, C++, Git, PyTorch, Agile, Jira, Jenkins, Docker, Solidworks, 3D Printing, Laser Cutting, Figma

PROJECTS

Quadruped Robot Stair Climbing, Major Qualifying Project (September 2024 - Present)
- Implementing autonomous stair climbing capabilities on the quadruped Unitree Go1 robot
- Installed Livox Mid 360 onto the robot to increase sensing capabilities, adjusted URDF accordingly
- Integrated FAST-LIO SLAM into C++ Kalman filter state estimation of OCS2 based NMPC-WBC framework
- Updated robot centric elevation mapping based ROS package to use improved odometry to reduce drift

Pick and Place Robot Arm, Robot Manipulation and Computer Vision (Jan 2024 - Feb 2024)
- Programmed 4 DOF Robotic arm to pick up and sort balls by color using matlab computer vision toolbox
- Created custom algorithm remove any unexpected objects only when the workspace is stationary
- Controlled arm with forward and inverse kinematics in cohesion with polynomial trajectory planning

SLAM Maze Exploring Robot, Navigation, Localization, and Mapping (Oct 2023 - Dec 2023)
- Implemented SLAM to explore and map an unknown environment using the ROS GMapping package
- Created custom python frontier detection algorithm to determine important destinations for exploration
- Integrated A* with a simplified pure pursuit algorithm to drive between identified locations

Swarm Robotics Pathfinding Simulation, Artificial Intelligence, (May 2023 - Present)
- Published conference paper in ICEIS comparing the Grey Wolf Optimization and Artificial Potential Field swarm navigation algorithms in a custom python simulation environment
- Recorded and analyzed data on algorithm runtime, path length, and obstacle avoidance

Hospital Administration Software, Software Engineering, (Jan 2023 - March 2023)
- Developed full stack application for Brigham and Women's hospital in team of 10 using agile methodology
- Worked primarily on front end using JavaFX Scene Builder and Figma
- Created detailed User Manual guide and weekly tracking sheets to document features and progress

WORK EXPERIENCE

Robotics Engineer Intern, Tyson Build Plates, (June 2025 - Present)
- Programmed ABB GoFa CRB robot arm to execute motions and respond to controller inputs
- Deployed a local Node-RED webpage for robot control and displaying debug information
- Configured FreeRTOS based sensors to stream important data to the webpage over ethernet

Software Engineer Intern, Neurala, (May 2024 - Aug 2024)
- Developed a Python test suite for Object Detection Pipeline to run remotely using Jenkins and Docker
- Identified, documented, and solved a variety of different bugs discovered using added tests
- Worked on team using agile methodology and Jira to set and accomplish goals