Wyatt Harris
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EDUCATION

Worcester Polytechnic Institute, Worcester MA
Robotics Engineering BS/MS, 3.96, Graduation Date Aug 2025
Activities: Rho Beta Epsilon Honors Society, Phi Kappa Theta- House Manager, Ultimate Frisbee

SKILLS

Python, C++, Matlab, Github, ROS, Linux, Jenkins, Docker, Java, C, Solidworks, 3D Printing, Laser Cutting

WORK EXPERIENCE

Neurala, Software Engineer Intern (May 2024 - Aug 2024)

- Developed and automated Python test suite for Object Detection Pipeline
- Identified, documented, and solved a variety of bugs detected with test suite
- Test suite runs remotely when codebase is changed using Jenkins and Docker

Worcester Polytechnic Institute, Prototyping Lab Assistant (April 2023 - Present)

- Oversee 30+ 3D printers and laser cutters in schools prototyping lab
- Assist and train students in creating printers or laser cuts

Mathnasium, Math Tutor (May 2022 - Dec 2022)

- Tutored 2-3 students at time in math ranging from addition to algebra
- Wrote small reports for parents about sessions

PROJECTS

Pick and Place Robot Arm, Unified Robotics III: Manipulation and Computer Vision (Jan 2024 - Feb 2024)

- 4 degree of freedom robotic arm picks up and sorts balls by color
- Recognizes balls and other objects with matlab computer vision toolbox
- Arm controlled with forward and inverse kinematics, polynomial trajectory planning

SLAM Robot, Unified Robotics IV: Navigation, Localization, and Mapping (Oct 2023 - Dec 2023)

- Robot explores and maps an unknown environment using ROS packages
- Localizes itself and maps area using particle filter with LiDAR sensor and odometry
- Navigates to frontiers on the map with A* and pure pursuit algorithms

Swarm Robotics Pathfinding Algorithms, Artificial Intelligence, (May 2023 - Present)

- Led small team to implement 3 emerging algorithms in Swarm Pathfinding field
- Created simulation environment and constructed algorithms in Python
- Paper analyzed and compared algorithms, published in ICIES

Quadruped Robot Stair Climbing, Major Qualifying Project (September 2024 - Present)

- Implementing GPU accelerated elevation mapping to increase perception capabilities
- Experimenting with alternative camera solutions to reduce drift

Maze Solving Robots, Unified Robotics II: Sensing, (Sept 2022 - Nov 2022)

- Three robots navigate maze and interact with obstacles to unlock and exit a gate
- Integrated encoders, ultrasonic, IR distance sensors and more using communication protocols