

Hudson Kortus

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EDUCATION

BS Robotics Engineering

May 2026

Worcester Polytechnic Institute GPA 3.9/4.0

Relevant Coursework: *Unified Robotics I - IV, Embedded Computing in Engineering, Urban Ecology and Eco-Justice*

PROFESSIONAL EXPERIENCE

Advanced Manufacturing and Autonomation Co-Op

Jun 2023 – Present

TTM Technologies

- Develop and implement robot to autonomously pick, place, and solder high precision circuit board components with a 6-DOF robotic arm improving system capability by 800%
- Design, integrate, and optimize robust vision algorithms using Teledyne Sherlock to measure critical distances for robotic control resulting in a 30X reduction in processing time per measurement
- Research, calibrate and perform preventative maintenance on variable dielectric 3D printer for radio lenses, and Nano Dimension Dragonfly IV PCB 3D printer

Full-Stack Web Intern

Feb 2021 – May 2022

Shodor Education Foundation

- Developed and maintained a website accumulating 3 to 4 million views per month to provide award-winning, free educational tools for students and educators in STEM
- Applied Java, PHP, and JavaScript skills to restructure legacy code

Sound and Livestream Technician

Jul 2021 – May 2022

Unity Center of Peace

PROJECTS

Payload Division Lead

Oct 2022 – Present

Intercollegiate Rocket Engineering Competition (IREC)

- Manage payload division consisting of 37 members to design and manufacture 10lb payload to be launched to 10,000ft
- Design payload to eject and steer itself using a novel circular parachute to a self determined landing site, and self right
- Integrate 7 independent subsystems while working with Rocket and Programming divisions to meet mass, and size constraints

Payload Recovery sub-team captain

- Lead team of 7 to develop and test a novel steerable circular parachute, on landing parachute release, and more

RoboSub 2024

Jan 2024 – present

Woo.WAV underwater robotics team

- Work in group of 12 to organize WPI's first ever underwater robotics team
- Use ROS2 and gazebo with ArduSub to program and simulate AUV based off blue ROV2

Vision-Based Color Sorting Robot Arm

Jan 2024 – Mar 2024

Finial Project Unified Robotics 3

- Implemented vision-based object detection with real-time trajectory planning, to pick and place colored objects
- Calculated inverse, forward, and velocity kinematics for a 4-DOF robot arm using MATLAB
- Built a custom simulator for data collection, singularity detection, and collision detection

Solar Panel Installation Robot

Aug 2023 – Oct 2023

Finial Project Unified Robotics I

- Designed and manufactured 4-bar linkage to precisely pick and place mock solar panels on varying camber roofs
- Optimized robot design using stress calculations, torque analysis, and gearing selection
- Programmed state machine employing PID controllers and encoder interrupts to autonomously control robot

SKILLS

Fusion 360 • SolidWorks • EAGLE EDA • ESPRIT • Soldering • Metal-machining • C++ • Java •
GIT • SVN • Python • JavaScript • MySQL • HTML/CSS • MATLAB • URScript/Polyscope •
Gazebo • ROS