

Tufts University MS in Human-Robot Interaction

Joseph Grossman

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Education

Tufts University

Medford, MA

MS Computer Science Candidate in Human-Robot Interaction (Expected 2025)

Assistant Agent Behavior and Learning (AABL) Lab

Purdue University

West Lafayette, IN

BS in Robotics Engineering (2024) | Minor in Computer Science

Presidential Scholar | Dean's List | Honors College

Skills

Programming: Python, C, C++, Java, JavaScript, MATLAB, ROS, Ladder Logic, Arduino, PLC, Algorithms, Git

Robotics/Engineering: Teach Pendant Programming, Robot Kinematics/Dynamics, CAD, GD&T, Mechanical & Wiring Diagrams, RViz, Computer Vision, Electrical & Mechanical Design, PID Control, Machine Learning, Plan & Goal Recognition Algorithms

Tools: MS Excel, PowerPoint, Word, AutoCAD Electrical, Autodesk Software

Projects

Smartwatch Robotic Arm Controller – Programmed a robotic arm controlled over the internet by a smartwatch.

Sphero Swarm Localization – Used computer vision techniques and probabilistic path planning to localize and control a swarm of Sphero robots.

Trading Card Analyzer – Built computer vision system for automated condition grading of Trading Cards.

Freight Robot Navigator – Utilized ROS, RViz, and the Navigation Stack to program a Freight Robot to navigate an environment while performing obstacle avoidance.

Experience

Summer 2023

Photon Automation Inc.

Greenfield, IN

Controls Engineering Intern

- Made updates to electrical drawings based on modifications made on the shop floor. Worked with different departments to make sure updates were made correctly.
- Created and updated electrical diagrams based on existing machines and researched components that could be used to accomplish the customer's requests.
- Researched programming and hardware components that could be used to integrate a laser welding head into the in-house built laser cutter.

Summer 2019, 2020

Positive Exposure (Nonprofit)

New York, NY

Summer Intern

- Assisted program directors with technology and operations

Leadership and Community Involvement

Summer 2021 – May 2024

Bechtel Innovation Design Center

West Lafayette, IN

Volunteer Peer Mentor

A student-focused, peer-mentored institution that enables project completion through hands-on-access to a safe ecosystem of consultation, training, technologies, and processes. Volunteered in the Woodshop.

2011 - 2019

Special Olympics New York City

New York, NY

Coach: Bowling (Fall), Basketball (Winter), Track & Field (Spring), Softball (Summer)

Worked with athletes ages 12 – 70+ with intellectual and developmental disabilities.

Assisted program heads with technology and administrative needs.

2019-2025

Tufts/Purdue Clubs

Intramural Soccer, Trading Card and Tabletop Game Club, Fighting Game Club, Smash Bros. Club