

JORDAN COUSINEAU

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EDUCATION

Boston University Boston, MA
Master of Science, Major: Robotics and Autonomous Systems Jan 2026
Relevant Coursework: Soft Robotics, Robot Motion Planning, Image & Video Processing, Intro to Embedded Systems

Pacific University Forest Grove, OR
Bachelor of Science, Major: Mathematics Minor: Computer Science Aug 2020 - Aug 2024
Relevant Coursework: Linear Algebra, Multivariable Calculus, Data Structures, Intro to Databases

SKILLS

Programming Languages: Python, C++, C, Bash, R, SQL, PHP

Tools: Git, MatLab, RStudio, Linux, QEMU

Leadership: Lead Teacher, Teaching Assistant, Assistant Coach

PROJECTS

Network-Based EKF Simultaneous Localization and Mapping Feb 2024 - Present

- Creating an autonomous mobile robot operating on an arduino to obtain and send data to a local server
- Developing a Python websocket server to communicate to the robot and send the data to a python script to do sensor fusion, state estimation, and mapping calculations
- Maintaining a MySQL database to hold coordinates and observations to develop a visualization through the frontend

'BlazeBots' Robotics Simulation Oct 2024 - Dec 2024

- Developed a hybrid multi-agent robotics simulation through Python and Pygame to autonomously navigate and map environments, reporting obstacles to a central system
- Executed a bounded DFS sweeping algorithm for swarm navigation and obstacles detection, and A* algorithm for cargo robot's optimal path planning
- Applied Object Oriented Programming principles for modularity, maintainability, and scalability

Genre Classification and Popularity Prediction Oct 2024 - Dec 2024

- Applied and compared KNN, Random Forest, and Elastic Nets to achieve the highest accuracy and runtime of genre classification
- Predicted popularity using logistic and linear regression, and CNNs based on Billboards top hits to compare musical features between hits and target songs
- Perform data scraping, cleaning, feature removal, normalization, encoding, and 80/20 split

Extended Kalman Filter SLAM Senior Thesis Sep 2023 - May 2024

- Analyzed mathematical models and algorithms by reverse engineering EKF SLAM and breaking it down into its core foundations
- Researched state estimation, sensor fusion, and uncertainty within the context of localization and mapping in an autonomous state

EXPERIENCE

Lead Teacher Nov 2024 - Present
The RoboHub - Robotics & AI Courses Cambridge, MA

- Teach fundamentals of robotics to students using Lego Spike and Vex kits
- Lead discussions on sensor usage and feedback, exploring applications and limitations in real-world scenarios
- Created curriculum for programming simple algorithms such as: line following, and obstacle avoidance

Teaching Assistant Sep 2023 - May 2024
Forest Grove High School - Mechatronics Program Forest Grove, OR

- Advised around 30 students, offering guidance on mechatronics concepts and projects
- Troubleshoot technical issues with hardware or software within robot design
- Designed new curriculum for students to include more complex programming principles