

# 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

### 'BlazeBots' Robotics Simulation - Python, Pygame

Oct 2024 - Dec 2024

- Developed a hybrid multi-agent robotics simulation 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 - Python

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 (EKF) SLAM Senior Project

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

### Bookstore - PHP, SQL

Mar 2024 - May 2024

- Built a bookstore website's backend database on MariaDB, created an E-R diagram, implemented SQL queries, and developed a PHP front end
- Designed efficient database structures, and implemented robust web for client needs

## 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