# ATHARVA JAMSANDEKAR

Boston, MA | Graduating December 2025
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## Education

**Northeastern University,** Boston, MA **December 2025**
*Master of Science in Robotics*
**Courses:** Mobile Robotics, Robotics Sensing and Navigation, Reinforcement Learning, Computer Vision

**Indian Institute of Technology (B.H.U.),** Varanasi, India **May 2023**
*Bachelor of Technology in Mechanical Engineering*

## Experience

**Northeastern University** **January 2025 – Current**
*Course Assistant - Robot Dynamics and Control* *Boston, MA*

- Assisted Professor Yasin Yazicioglu to design course topics, assignments, and projects for 40 undergrad students
- Delivered demonstrations to students relating to Motion Planning and Control of Manipulators and planned out the logistics for the project
- **Skills:** MATLAB, Control Systems, Robot Manipulators

**Robert Bosch LLC** **July – December 2024**
*Controls Software Intern* *Farmington Hills, MI*

- Developed and validated the Automotive Connectivity Hub, enabling real-time vehicle CAN data collection, on-board diagnostics and third-party app integration
- Performed Verifcation & Validation through Hardware-in-Loop testing of the Automotive Connectivity Hub and provided customer support during its launch in the North America market
- Integrated and validated a retrofit predictive cruise control optimization algorithm for semi-trailer trucks on Automotive Connectivity Hub, achieving 4% fuel savings
- **Skills:** J1939, CAN, LIN, Vector CANalyzer, ETAS INCA, ASCET, Ethernet, ISO 26262, Internet of Things

**Drobot Inc.** **April – August 2022**
*Software Developer Intern - Autonomous Vehicles (Remote)* *Greenville, SC*

- Elevated the Segway RMP robot's control algorithm performance by 60%, using vehicle modeling to integrate feed-forward elements in a PID Controller
- Pioneered the implementation of the AprilTag framework, revolutionizing precision docking for a differential-drive robot by reducing pose error three-fold
- Performed analysis on raw UWB-RTLS data streamed using MQTT and eliminated 75% of the fluctuations and jitters in the data by employing Extended Kalman Filter
- **Skills:** Warehouse Automation, ROS, Autonomous Navigation, Indoor Localization

## Skills

**Programming** : C++, Python, C, MATLAB/Simulink, SQL, Git, Docker
**Frameworks** : Linux, Robot Operating System(ROS), Tensorflow, OpenCV, Numpy, Pytorch, Jira
**Hardware** : Stereo Camera, LiDAR, IMU, Nvidia Jetson, Raspberry Pi, RTK-GPS, Vector VN1600
**Areas of Interest** : Autonomous Vehicles, Motion Planning, Game Theory, System Design

## Projects

**Leo Explore: The Reconnaissance Bot** **April 2024**

- Developed an end-to-end motion planning stack utilizing K-means for frontier identification, A* algorithm for global path planning, and Model Predictive Path Integral for local planning, ensuring efficient navigation in uncharted environments

**Control Barrier Functions for Multirobot Collision Avoidance** **June 2024**

- Implemented a minimally invasive convex optimization approach of control barrier function on Double Integrator robots in Gazebo, supporting swarm size of upto 12 agents