

Abhimanyu Suthar

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EDUCATION

NYU Tandon School of Engineering, New York

Sept 2023 - May 2025

Master of Science in Robotics (4.0/4.0 GPA)

DJ Sanghvi College of Engineering, Mumbai University

August 2019 - June 2023

B.Tech in Mechanical Engineering

SKILLS

Languages: Python, MATLAB, C++

Tools: Git/GitHub, Unix Shell, VS Code, ROS, MS Office

Programming frameworks: Pytorch, OpenCV

PROJECTS

Obstacle avoidance bot using Arduino Uno

October 2023 - December 2023

- Integrated servo motors for precise control of movement, utilizing proportional adjustments to navigate and stay within specified boundaries
- Utilized infrared sensors to detect and respond to lane boundaries, enabling the robot to correct its course when white lines were detected, enhancing navigation accuracy.
- Achieved a responsive and adaptable robot behavior by combining sensor data with servo motor control and speech recognition, providing a versatile platform for further customization and expansion.

Integrated Robotics library: Kinematics, Dynamics and Visualization

November 2023 - December 2023

- Successfully the forward kinematics of the Xarm6 machete robot to predict end-effector position based on joint configurations.
- Implemented the Newton-Raphson method for inverse kinematics, contributing to accurate robot motion planning and control.
- Utilized matplotlib to visualize simulation results, aiding in the analysis and verification of kinematic solutions.

RESEARCH EXPERIENCE

Defense Research and Development Organization (DRDO) | Project Intern

July 2022 - August 2022

<https://www.drdo.gov.in/labs-and-establishments/centre-artificial-intelligence-robotics-cair>

- Collected and synchronized raw data from IMU and GNSS sensors, ensuring temporal alignment for seamless fusion.
- Analyzed and interpreted data plots in areas with lost Global Navigation Satellite System (GNSS) signals, addressing challenges associated with signal loss and optimizing localization algorithms.
- Conducted comprehensive evaluations under various scenarios, quantifying key performance metrics such as position error and trajectory deviation.

DJS Skylark | Technical Design Manager

July 2022 - August 2022

<https://www.linkedin.com/company/djs-skylark/about/>

- Analyzed over 100 configurations of aircraft setup on MATLAB and identified the global maxima
- Optimized flight performance using MATLAB by identifying areas where gains could be made
- Managed a team of 25 students comprising of peers and juniors.
- Consistently met tight deadlines with regards to report submission and coordination between various sub-groups.

AWARDS AND EXTRACURRICULAR ACTIVITIES

SAE Aero Design competition

- Micro Class(2021): 1st in Asia-Pacific
- Regular Class(2021): 1st in Design Report; 1st in Asia-Pacific