

Devansh Dhrafani

[Email](#) | [LinkedIn](#) | [GitHub](#) | [Website](#)

EDUCATION

Birla Institute of Technology and Science, Pilani

BE Mechanical Engineering + MSc. Physics, minor in Robotics and Automation.

Hyderabad, India

Aug. 2017 – May 2022

Relevant Coursework: Control Systems, Mechatronics and Automation, AI for Robotics, Machine Learning, Kinematics and Dynamics of Machines, Computer Aided Design

TECHNICAL SKILLS

Languages: Python, C++, HTML/CSS

Frameworks and Libraries: ROS, Gazebo, V-REP, Rviz, TensorFlow, Keras, OpenCV, Scikit Learn, Pandas, Matplotlib, NumPy, GIT, Simulink Control Systems

Softwares: SolidWorks, Creo, Fusion360, MATLAB, AutoCAD, ANSYS, Simplify3D

Developer Tools: Git, Google Colab, VS Code, PyCharm

EXPERIENCE

Summer Research Intern

APTRI Labs

May 2019 – July 2019

Ahmedabad, India

- Developed ALFA - An open-source floor-assistant robot, that can be controlled over the internet.
- Designed CAD Model, fabricated and tested the prototype mobile robot.
- Motor Mounts, Support rods and other mounts were 3D Printed on an industrial delta 3D Printer.

PROJECTS

Quadrotor Altitude Control | *ROS, C++, Gazebo*

Sept 2020

- * Designed and implemented an altitude controller for Quadrotors with PID and Motor Mixing Algorithm.
- * The Hector-Quadrotor package was used for simulation in Gazebo.

Mobile Robot Controller | *ROS, C++, Gazebo, Rviz*

Aug 2020

- * Implemented Hybrid Automata Switching logic between different behaviours of a mobile robot.
- * Behaviours: Go To Goal, Obstacle Avoidance and Follow Wall governed by Sliding Mode switching.

Differential Drive Robot | *ROS, Python, Gazebo, Rviz*

May 2020

- * Implemented SLAM using gmapping on a custom 2-wheeled differential drive robot in Gazebo.
- * Implemented the ROS Navigation stack to autonomously navigate through the mapped environment.
- * Used ROS Joy package to control the robot using a gamepad.

Dextroid -The Humanoid

Oct 2017 – May 2018

- * Worked on improving the mechanical design of the 8-DOF bipedal robot Dextroid.
- * Reduced errors due to mechanical vibrations of links.
- * Reduced impact force on the feet of the robot while walking.

CERTIFICATIONS

Control of Mobile Robots - Georgia Institute of Technology - Coursera

Deep Learning Specialization - deeplearning.ai - Coursera

Modern Robotics, Foundations of Robot Motion - Northwestern University - Coursera