




CONTACT ME AT

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MAIN PROJECTS

- Webcam Integrated ROS 6 Wheel Car (Mars Rover)
[To See Project Click on me](#)
- Closed Loop Control of DC Gear Motor Using ROS
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- ROS-Action-Aruco-Marker Pose-Estimation-With Respect to-Robot.
[To See Project Click on me](#)
- Autonomous Drone simulation on gazebo ROS
[To See Project Click on me](#)
- Floor Cleaning Robot using ESP32 Smartphone Control Robot
[To See Project Click on me](#)

CERTIFICATIONS

IIT Bombay, e-Yantra Robotics Competition 2020 - 2021

SOURABH TIWARI

ROBOTIC ENGINEER

PERSONAL PROFILE

I'm a Full Stack Robotics Engineer, Researcher and Developer. Expert in ROS1/ROS2, Linux, Control System, Robot Simulation, Path Planning Algorithm, Autonomous Drone, Computer Vision, IoT, Rosserial Communication, worked with Nvidia Jetson, Raspberry pi, AVR Boards, EP32, ESP8266, Teensy 4.1, DC Gear Motors, and Motor Drivers, Encoders(Hall Sensor), BLDC Motors, Servo Motor, GPS Modules, IMU (MPU6050), Radar (IWR1443 Booster), Buck and Booster converter ,etc.

WORK EXPERIENCE

Robotics Engineer

ABA AIOT PVT LTD | Mar 2021 - Sep 2022

Work and Responsibilities -

In that company, I worked on the Autonomous Robots and my responsibility was to work on software and hardware both levels.

- I had to achieve closed loop controlling of DC gear motors and BLDC motors using ROS, so basically for achieving it, I used to work with Nvidia Jetson Nano, AVR Boards, Teensy 4.1, Motors driver (L293D, L238N, Dual Monster VNH3ASP30), Encoders (OE-37, OE-75 Hall sensors).
- Developing the CAD model of robots and converting them in urdf format and deploying it into Robotic Simulation (gazebo) and working on ROS plugins to control the simulation.
- I also worked on the radar system IWR1443 Booster and tested on ROS.
- I also developed lots on ROS packages including Custom msgs, Services, Action, Rosserial communication also to interface the Nvidia Jetson with Microcontrollers (Arduino Boards, Teensy 4.1, ESP32, ESP8266) to get various sensor data and motor driver control.
- Developing a MQTT and ROS environment on Linux system to achieve communication between multiply Nvidia Jetson Nano.
- Apart from them, I also worked on Compute structure circuit designing, Mecanum wheels, Intel Realsense camera D455, tracking camera T265..etc.

SKILLS

- ROS 1 / ROS 2
- C++
- Python
- Gazebo
- Computer Vision
- Networking
- DC / BLDC motors
- DC / BLDC Drivers
- Nvidia Jetson
- AVR Boards
- CAD (Autodesk Fusion 360)
- Linux
- Control System
- ArduPilot
- Pixhawk
- MAVLink
- Lidar
- IoT

WORK EXPERIENCE

Robotics Engineer

VECROS IIT DELHI | Oct 2022 - April 2023

Work and Responsibilities -

- Working on ArduPilot and MAVLink Protocol for the commanding and controlling of the drone in different flight mode.
- Developing an obstacle avoidance algorithm in guided mode using Intel realsense camera.
- Worked on Lidar like Lidar for 3D mapping and pointcloud data collection.
- Worked on Yolo model training
- Worked on Mesh network development using esp32 for drone swarm.
- Developing companion computers can be used to interface and communicate with ArduPilot on a flight controller using the MAVLink protocol.
- Developing a Navigation system for autonomous drone.
- Worked on Path Planning and Obstacle avoidance algorithms.

EDUCATIONAL HISTORY

Guru Gobind Singh Indraprastha University

Bachelor in Electrical And Electronics Engineering

Aug 2017 - Mar 2021

Senior Secondary (XII), Science

Heera Public School , C.B.S.E | Aug 2015 - Mar 2017