

## EXPERIENCE

### Elektrobit, India

- Executive Engineer

Jan 2022-Present

Working on code generators and writing test cases for ADAS software.

### JdeRobot, Universidad Rey Juan Carlos, Spain

- Google Summer of Code 2022 - Mentor

Feb 2022-Present

Mentoring the project - Consolidation of drone based exercises

- Software Developer, Part-time

Aug 2021-Feb 2022

Working Group member of [jderobot-drones](#) and [RoboticsAcademy](#). Language/Tools - Python, C++, ROS, Gazebo, PX4, MAVLink, OpenCV, Html/Css/Js, Docker

- Google Summer of Code 2021 - Student

May 2021-Aug 2021

Built the Robotics Academy Docker Image for ROS-Noetic. Extended the drone exercises from ROS node to web-based template. [Blog](#)

### Dassault Systèmes, India

- Design Engineer, Internship

Feb 2021-Aug 2021

Designed a foldable motorcycle helmet and performed static structural analysis. Showcased our product at the Industry-Academia Connect program, and won funding by Dassault Systèmes for the physical prototype.

## PROJECTS

### Freelance @ Upwork

Present

- MoSAIC Challenge - Worked on depth estimation, ORB-SLAM2, object tracking, and Isaac SDK.
- Human Following Robot - POC using Mask R-CNN machine learning model and ROS.
- [Split & Rephrase](#) - Built an NLP pipeline for sentence simplification.

### SLAM using Turtlebot3

2021

- A small project [awesome slam](#) to implement SLAM based on EKF & UKF using Turtlebot3.
- Built a feature detection pipeline of points clustering, circle fitting, and circle classification.
- Implemented using C++, ROS, Gazebo.

### Robotics Algorithms

2021

- POCs for local navigation algorithm with Artificial Potential Field, coverage path planning algorithm, and PID controller on a line following robot. [Blog](#)

### AI Learns to Park

2020

- Created a 3D parking-lot game in Unity simulator. Worked on setting up the communication networks using socket networking interface.
- Trained an ANN using Rainbow-DQN algorithm for the agent to self-park.
- Implemented using Python, and C# [Blog](#)

## EDUCATION

### Thapar Institute of Engineering & Technology

Patiala, India

B.E. in Mechanical Engineering

Jun 2018-Jun 2022

- Received the first prize in the Capstone Project for the foldable helmet project.

## SKILLS

- **Programming languages** : C++, Python, Bash
- **Tools / Frameworks** : ROS, Gazebo, Unity3D, OpenCV, PyTorch, TensorFlow
- **3D Softwares** : SolidWorks, Ansys, PTC Creo, Blender