

EXPERIENCE

Elektrobit, India

Jan 2022 - Present

- **Executive Engineer, ADAS Developer**

Wrote test cases for the Honda project. Working on Code Generators, CMake interfaces, Google Tests, PlantUMLs, ROS2.

JdeRobot, Spain

May 2021 - Present

- **GSoC 2022 Mentor**

Mentoring 1 project at Google Summer of Code 2022.

- **GSoC 2021 Student**

Created drone-based exercises, which students of URJC use to learn computer vision and robotics. Worked on PX4-Autopilot, MAVROS, ROS, and Gazebo. [\[blog\]](#)

Upwork

Jan 2021 - Jan 2022

- **Freelance Robotics Engineer**

Completed 10+ projects. Developed Robotics solution for startups and small businesses and helped them grow. Worked on Depth Estimation, ORB-SLAM2, Graph SLAM, MASK R-CNN, YOLOv5, Deep Sort, NVIDIA Isaac SDK, ROS, Gazebo.

Dassault Systèmes, India

Feb 2021 - Aug 2021

- **Design Engineer, Internship**

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

PERSONAL PROJECT

SLAM using Turtlebot3

2021

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

Robotics Algorithms

2021

- Developed proof of concepts with Artificial Potential Field and coverage path planning algorithm.
- Worked with PID controllers on a line following robot. [\[blog\]](#)

AI Learns to Park

2020

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

EDUCATION

Thapar Institute of Engineering & Technology
B.E. in Mechanical Engineering

Patiala, India
Jun 2018 - Jun 2022

SKILL

Programming languages : C++, Python, Bash

Tools / Frameworks : ROS, Gazebo, Unity3D, OpenCV, PyTorch, TensorFlow

3D Softwares : SolidWorks, Ansys, PTC Creo, Blender

RECOGNITION

- Awarded first prize at Capstone Project 2021 during college third year
- Selected at Google Summer of Code 2021 as Student, and 2022 as Mentor
- Among top 4 out of 15+ projects to win Industry-Academia Connect Competition 2021 by Dassault Systèmes