

Kaivalya Shah

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Education

B.Tech in **Computer Engineering** and **Minor in Robotics**

2022 – Present

@Pandit Deendayal Energy University (Gandhinagar)

CGPA: 9 (current)

Skills

<ul style="list-style-type: none">• Field of Knowledge• Languages• Developer Tools• Microcontrollers/Microprocessors• Additional	Robotics, Control Systems, SLAM, Abstract AI C++ , Python , Java , R ROS2, Git, Gazebo , Rviz2 , Fusion 360 , MatLab Raspberry Pi, Arduino, Jetson NANO Video Editing , Flute
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Projects

- **Multi Purpose Bot in ROS2** : Differential Drive Bot with URDF descriptions for camera/depth camera, lidar. Control configurations and launch files for SLAM/Nav2.
- **Monocular Depth Estimation in ROS2** : MiDaS allows a single camera to generate depth between different objects on path and can be used for path planning.
- **Object Detection And Segmentation in ROS2**: YOLOv8 allows more efficient path planning and for additional tasks by bot.
- **PathFinder Bot with PID** : wall maze solver implemented using an Arduino board and a PID algorithm. The goal is to navigate through a maze by following the walls while avoiding collisions.
- **Micromouse (IITB TechFest)** : Robot with a 5-IR sensor array uses Dry run to solve Maze and finds the shortest path with string manipulation method.

Experience

- **iNav Labs (Startup)** : Contributed as ROS developer to simulate model of autonomous car module using Jetson Nano
- **Cretus Tech Core** : Involved in Various Robotics events of PDEU Robotics Club