



AVDHESH KUMAR

Final Year Mechanical Engineering Undergrad.

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ACADEMIC DETAILS

| YEAR | DEGREE | INSTITUTE | CGPA/PERCENTAGE |
|--------------------|--|---|--------------------------------|
| 2023 (expected) | B.Tech in Mechanical Engineering(Major) Electrical Engineering(Minor) | Sardar Vallabhbhai National Institute of Technology, Surat | 8.31(6 th semester) |
| 2018 | Class XII, ISC | Saint Basil's School, Basti | 89.8% |
| 2016 | Class X, ICSE | Saint Basil's School, Basti | 90% |

POSITIONS OF RESPONSIBILITY

Drishti- a Revolutionary Concept

Member

Drishti is the technical club of NIT, Surat.

- Worked in two projects. Pitching Machine (offline mode along with manufacturing) and Gyroscope bot (online mode with simulation).

INTERSHIPS & PROJECTS

Summer Intern at CMTI (Central Manufacturing Technology Institute), Bangalore

Jun 2022- Jul 2021

An Autonomous R&D institute under Ministry of Heavy Industries, India

- 3D scanning of any object, a project of Department of Science, India.
- Implemented ICP (Iterative Closest Point) algorithm for fine alignment of point-cloud data using pcl (point cloud library).
- Created an interactive application for encapsulating the process of data input, processing, manipulation and alignment.

R&D intern at AMTDC of IIT Madras

Dec 2021- Feb 2022

AMTDC is Advanced Manufacturing Technology Development Centre of IIT Madras

- "Development of an Industrial IoT based active Damped Boring bar", Studied dynamics of boring bars for their control system modelling and designed controller for the actively damped boring bar with the help of piezoelectric sensors in MatLab SIMULINK. Other tasks of this internship included prognostics, diagnostics and IIoT (Industrial IoT). This project was funded by Ministry of Heavy Industries.

Crane Hook/Top Tracking or Positioning Solution

Sep 2021- Mar 2022

TECHgium® is a unique national level industry-academia competition organised by L&T technological services

- Finalist in top 60 teams for the final POC demonstration round among 30K+ students in Techgium competition of L&T. Proposed a computer vision solution and demonstrated the POC of final round by implementing sensor fusion of LiDAR and camera data that helps crane operators to visualise obstacles in real-time to assure safety and uninterrupted work 24X7.
- Performed object detection and tracking on camera data and processed clustering and segmentation of point cloud data of LiDAR using pcl library, open3D library and openCV2.

Seminar on "Robotic Path Planning"

Sep 2021 – Nov 2021

- Study of various path planning algorithms used by 3D autonomous robots like, A*, Dijkstra's, RRT, PRM, artificial potential field, Ant colony optimization algorithms and more to be done.

Stock Prediction and Analysis

Aug 2021- Sep 2021

- Performed time-series analysis on NSE50 data from yahoo.finance and predicted future price on it using technical indicator VWAP.
- Implemented linear regression and XGBoost machine learning model.

TECHNICAL SKILLS

C,C++ Python, MatLab, ROS, ML, GitHub ,Computer Vision, AutoCAD, FreeCAD, SolidWorks, Ansys.