

# VARDAN MITTAL

7302675858 ◊ Surat, Gujarat

[Email](#) ◊ [LinkedIn](#) ◊ [Github](#)

## ABOUT

A highly motivated and results-oriented robotics engineer with a passion for innovation and problem-solving. Possesses strong skills in control systems, machine learning, and robotics, demonstrated through internship experience and personal projects. Eager to apply expertise in developing and designing robotic solutions for real-world applications.

## EDUCATION

### Indian Institute of Technology, Gandhinagar

Master of Technology(M.Tech) in Mechanical Engineering

CGPA: -

2024 - 2026 (expected)

### Relevant Coursework:

### Sardar Vallabhbhai National Institute of Technology

Bachelor of Technology(B.Tech) in Mechanical Engineering

CGPA: 8.81/10

2020 - 2024

## INTERNSHIP

### Indian Institute of Technology, Delhi

Semester Long Internship, Department of Applied Mechanics

Jan 2024 - Present

*Delhi*

- Developed and implemented a control system for a continuous non-invasive blood pressure measuring device, leveraging skills in robotics software and hardware. Utilized ROS-based environment for seamless control and integration of various system components.
- Designed and executed a data processing strategy using digital signal processing techniques to filter real-time data, ensuring accurate and reliable blood pressure measurements.

### Reliance Industries Limited

Summer Internship

May 2023 - Jul 2023

*Vadodara, Gujarat*

- Worked on the project for **Enhancement of Fabrication Hub Area**, overseeing the implementation of proper welding shields, layout development, and fabrication shop standard arrangement.
- Implemented data-driven strategies that led to a 20% boost in industry profits, emphasizing the fusion of analytical insights with operational enhancements.

## SKILLS

### Programming Languages

Python, C, C++, JavaScript, Embedded C, Micropython

### Technical Skills

Robot Operating System, Gazebo, Linux, Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Control System, Digital Signal Processing, Sensor Integration and Fusion, Motion Planning and Trajectory Generation, Kinematics and Dynamics, Version control, Dockers

### Hardwares

Arduino UNO, Esp32, Raspberry Pi, Jetson nano

### Soft Skills

Problem-solving, Critical thinking, Teamwork, Communication, Project Management

### Languages

English, Hindi, German

## PROJECTS

### RAKSH-An Autonomous Pesticide Spraying Robot

Dec 2022 - Dec 2023

### Robofest 3.0, Gujarat Council of Science and Technology

- Finalist and recipient of **1 lakh** rupees award, developed an autonomous pesticide spraying robot "RAKSH" for Robofest 3.0, integrating **VSLAM using ROS** with stereo camera and IMU sensors for precise navigation.
- Leveraged interdisciplinary knowledge gained from a focused study in mechatronics and robotics, encompassing a comprehensive understanding of sensor technologies, actuators, digital and analogue circuits, control systems and **serial communication** as well as theoretical concepts such as **inverse and direct kinematics**, **path planning** and mathematical principles crucial for robotics applications.
- Implemented a disease detection machine learning model, enhancing the robot's functionality by enabling accurate identification of affected areas, thereby facilitating targeted pesticide spraying

## POSITION OF RESPONSIBILITY

### Head of AI/ML Department

Google Developer Student Club, SVNIT

Sep 2022 - May 2023

*Surat, Gujarat*

- Successfully organized and led a dynamic hackathon event, **Hack the Tank** attracting participation from over 70 teams.
- Conducted an introductory Machine Learning workshop, providing beginners with foundational insights into the field's principles and applications.

## EXTRACURRICULAR ACTIVITIES

### Courses

CS50: Introduction to Computer Programming, Machine Learning Specialization

### Seminar

Deliver a seminar on **Wire E.D.M Prediction Model** using Machine Learning