

Academics

2017-2021	B.Tech in Mechanical Engineering, IIT Kharagpur
CGPA	9.49/10.0 (Currently Pursuing)
2017	Gujarat Secondary and Higher Secondary Education Board, HSC
Percentage	96.33%
2015	Gujarat Secondary and Higher Secondary Education Board, SSC
Percentage	92.5%

Technical Skills

Programming Languages	C C++ Python MATLAB
Environments / Platforms	ROS Gazebo Raspberry Pi Arduino
Others	OpenCV Solidworks AutoCAD

Work Experience

- Autonomous Ground Vehicle (AGV)** **IIT Kharagpur**
Embedded and Controls team
Guide - Prof. Debashish Chakravorty, Department of Mining Engineering
26th Intelligent Ground Vehicle Competition, Michigan, USA *Apr'18 - Jun'18*
Runners Up in Auto-NAV challenge. Worked on localization, embedded systems and circuits, Drive-by-Wire control
- Mahindra Rise Driverless Car Challenge** *Apr'18 - present*
One of the top 13 teams out of 400 teams tasked with building an autonomous car for Indian roads
Contributed in localization, linear velocity and steering control for path tracking.
- Survey, Design and Analysis of Path Tracking Methods for High-speed Mobile Robots** *Aug'18 - Present*
Implemented PID controller and Adaptive PID controls for linear velocity control
Implemented different geometric methods like Pure Pursuit and Stanley Method on real vehicle and simulator
Designed and implemented Linear-Quadratic Regulator for optimal path tracking
Currently working on Model Predictive control
- TCTD Challenge, 7th Inter-IIT Tech Meet** **IIT Bombay**
Embedded and Controls team *Dec'18*
 - Built a low cost completely autonomous agricultural robot capable of plucking fruits, sowing seeds and spraying weedicide.
 - Worked on the controls of robotic arm and gripper (5 DOF), Localization, circuits and other sensor integration

Projects

- CNC Plotter:** Made a mini CNC Plotter using 8-bit AVR micro-controller and Raspberry PI which could draw any object when provided with the G-code/M-codes.
- IEEE Winter Workshop Mentor:** Mentored a batch of 40 students on Autonomous Robotics.
- Hobby Robotics:** Built various small projects based on arduino like maze solver, lane follower, gesture controlled bot, etc.

Position Of Responsibilities

- Technology Robotix Society** **IIT Kharagpur**
Student Sub Head *Mar'18 - Present*
 - Involved in practicing and preaching the culture of hobby robotics across the country
 - Responsible for designing, developing, prototyping and conducting of an autonomous robotics event in Annual Techno-Management Fest Kshitij
 - Mentored a batch of 15 members

Other Activities and Competitions

- IEEE Winter Workshop:** Attended the week long Winter Workshop on Autonomous Robotics. Built a Self balancing Robot using accelerometer, gyroscope and rotary encoders.
- Stood first in the image processing event **Pixelation** held during National Space Students Challenge (NSSC 2018)
- Second Runner Up in **Braitenberg**, a Hardware Hackat in National Student Space Challenge (NSSC 2018)
- Best fresher award and overall fourth in the autonomous event **STAX** held during Kshitij(2018)

Relevant Coursework

Completed	Programming And Data Structures Partial Differential Equations Transform Calculus Electrical Technology Dynamics Fluid Mechanics Engineering Drawing
Currently Studying	Basic Electronics Probability and Stochastic Processes Kinematics of machines
Online	Control of Mobile Robots Control Bootcamp

Scholastic Achievements

- **IITJEE Advanced:** In top 1.7% amongst more than 2,00,000 students
- **IITJEE Mains :** In top 0.55% amongst more than 11,00,000 students.