



Karthik Manoranjan

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EXPERIENCE

Robotics Interest Group

Member

Oct 2022 - Present, NITC

Led Battery Management System team

- Led team of 4 in the Battery Management System team involving maintenance of batteries, primarily LiPo batteries.

DD Robocon 2023

- Achieved **AIR 14** in the competition held in association with IIT Delhi at Tyagraj Stadium, New Delhi
- Worked on prototyping and fabrication of ring throwing bots.
- Developed image recognition algorithm capable of identifying poles using OpenCV and python.

e-Yantra Robotics Competition 23-24

- Qualified for stage 2 in competition held by IIT Bombay
- Developed control and image recognition algorithm for autonomous drone in a gazebo simulated environment using ROS, python and OpenCV and secured 100% in stage 1.
- Developed control and image recognition algorithm for autonomous drone capable of survey using ROS, ROS2, python and OpenCV.

Automated Wheelchair

- Worked on automated wheelchair controllable using mobile application via WiFi or bluetooth using arduino and python.

Fully Actuated Multirotor UAV for smart farming

- Worked on hexarotor capable of generating soil maps by data collection via a sensor-based mechanism.

Workshops conducted

- Conducted Robotics Expo and Seminar at UL Cyberpark Kozhikode as part of Moon day celebrations by UL Space Club.
- Conducted two-day Robotics workshop ORIGO for students and developed a target following bot. Conducted a seminar on python programming for students.

Universal Adaptive Headlight (External Project)

- Worked on adaptive headlight and Parking Assistance System to be implemented in vehicles.

Tathva and Ragam

PRC and Runtime member

2021-2022, NITC

Tathva, Ragam 2021

- Actively engaged with over 100 students from various colleges to promote and boost attendance at campus events, enhancing awareness and participation through effective outreach strategies.

Tathva 2022

- Member of Public Relations Committee involved in actively promoting events by engaging with over 200 students from other colleges to boost awareness and attendance.
- Organised Samasya Quiz for school students.
- Involved in runtime committee for handling game booths during the event.

SUMMARY

Chemical Engineering student with experience in programming and machine learning. Skilled in developing control systems and algorithms. Demonstrated leadership in managing projects and collaborating with teams.

SKILLS

Back End	Python, C++
Front End	HTML, CSS
MS Office	Word, Excel, PPT
OS	Windows, Linux
DevOps	Docker, Github
Misc.	MATLAB, ROS, ROS2
Soft Skills	Teamwork, Leadership

EDUCATION

Kendriya Vidyalaya Payyanur

- Class X: Passed with 93.4% in 2018
- Class XII: Passed with 93% in 2020

National Institute of Technology Calicut

- Current CGPA: 7.30

CERTIFICATIONS

- DD Robocon 2023
- e-Yantra 23-24
- ORIGO Workshop 2022
- Learn Machine Learning in 21 Days
- 100 Days Python bootcamp

LANGUAGES

- Malayalam (Native)
- English (Advanced)
- Hindi (Limited)
- French (Elementary)

INTERESTS

- Reading (Mainly Fiction)
- Playing Chess
- Travelling
- Sports