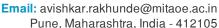


# RAKHUNDE AVISHKAR ANKUSH

B.Tech. - Mechanical Engineering Ph: +91-8262996800





### **BRIEF SUMMARY**

I am a Third Year Mechanical Engineering Student, With a keen focus on 3D design and Ansys simulation, complemented by a practical understanding of drone technology. My academic journey is marked by a dedication to integrating advanced automation techniques to enhance manufacturing processes. Eager to apply my technical skills and innovative thinking to solve complex engineering challenges.

### **KEY EXPERTISE**

Computer Aided Design ANSYS Project Management Skills Team Management Leadership Skills

Drone Technology

#### **EDUCATION**

MIT Academy of Engineering, Pune  B.Tech Mechanical Engineering   CGPA: 6.38 / 10	2021 - 2025
B.N.N College of Science, Bhiwandi  12 <sup>th</sup>   MSBSHSE   Percentage: 87.17 / 100	2021
Shri R.V. Pawar School, Bhiwandi  10 <sup>th</sup>   MSBSSC   Percentage: 81.20 / 100	2019

# **AWARDS AND SCHOLARSHIPS**

- o 1st Rank in 8 State Level Drone Competition
- o 2nd Rank in 6 State Level Drone Competition

### **PROJECTS**

#### **Folding Cart**

Mentor: Prof. B.R. Patil

Key Skills: Manufacturing Core Mechanical

I spearheaded a minor project aimed at crafting a compact, foldable cart tailored for small business owners, addressing their transportation challenges. Delving into manufacturing and casting processes, I enhanced my problem-solving skills. The project's focus on compactness for small spaces and lightweight design for easy load-carrying reflects innovation. This experience not only deepened my technical knowledge but also provided insights into practical product development and project management.

#### **Autonomous Guided Vehicle**

Mentor: Prof. B.R. Patil

**Key Skills:** Manufacturing Software IOT and Automation

Currently Working on as major project to develop a LiDAR-based cart for efficient transport within the company's premises. Utilizing LIDAR

technology to enhance mapping and navigation capabilities, aiming to improve safety and streamline intra-company logistics

#### **FPV Drone**

Mentor: Prof. Rahul Kumar Patil
Key Skills: UAV Automation

This project that was made within Drone Club at MIT AOE involved making of a First Person View racing drone whose primary purpose is to swiftly pass through multiple obstacles in the least amount of time. The drone frame is made out of 4mm thick carbon fibre sheets. The flight controller used is STM32F722 along with 4 8051 microcontrollers for motor control. An analog FPV camera along with a Video Transmission Unit has also been mounted on this drone which transmits video at 5.8Ghz . A LoRa based receiver has been used which promises upto 25km of 100% communication link between the transmitter and receiver. The receiver uses Crossfire Express LRS communication link and operates at 2.4Ghz.

Outcomes:

This project helped us realize the latest Long range communication technologies and also helped us secure good ranks in many national and state level competitions

**HexaCopter** 

Mentor: Prof. Rahul Kumar Patil

Key Skills: UAV Automation Signal Processing

A hexacopter based on Pixhawk 2.4.8 (STM32F405) was automated with Raspberry Pi 4B computer. The communication link between the drone and the radio was based on the industry grade 915Mhz MAVlink protocol. This drone can lift up to 2.5 Kg because of its 6 820g thrust motors. The automation is done by primarily connecting the Raspberry Pi to the Pixhawk and then to a windows based PC, then a pathway and other automation tasks are fed to the flight controller and Raspberry Pi via Ground Control Software. This drone operates on a 4S Lithium Polymer battery.

Outcomes:

We have created an automated drone which can do any task from monitoring land from above, dropping parcels all the way up to Open CV based object recognition from high altitude. Only the payload types need to be changed according to the application.

### **ACHIEVEMENTS**

- o 1st Rank in National Level Drone Race Championship With Technical Collaboration with DRDO
- o 2nd Rank in Board of International Aviation Games National Level Drone Competition

### ASSESSMENTS / CERTIFICATIONS

The Complete Hydraulic Course

**Pneumatic Fundamental** 

# **CO-CURRICULAR ACTIVITIES**

- Vice-President of MITAOE's Official Annual Magazine AjaanVriksha
- Vice-President of MITAOE's Official Drone Club

# PERSONAL INTERESTS / HOBBIES

- Drone Flying
- Photography
- Videography
- Graphics Designing

# **PERSONAL DETAILS**

Gender: Male

Marital Status: Single

Current Address: H.No A 10, Kaiwalya Building, Vishweshwar

Nagar, Dehu Phata, Alandi. 412105, Pune, Maharashtra, India -

412105

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