

# Aditya Shinde

UAV & DRONE SYSTEMS ENGINEER | FPV DRONE PILOT

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## SKILLS

- **Technical Skills:** Python, Data Analytics, DBMS, Computer Networks, Cloud Computing, MIoT
- **UAV & Drone Systems:** FPV Drone Racing, Flight Tuning, Autonomous Navigation, Telemetry Integration, Ground Control Systems, Mission Planner, BetaFlight
- **Design & Automation:** AutoCAD, Fusion 360, Pneumatic Systems, Mechanical Design, Automation Prototyping
- **Embedded Systems:** Microcontrollers, Sensors & Actuators, Circuit Design, Hardware Integration
- **Programming & Tools:** Arduino IDE, MATLAB (Basics), Soldering & PCB Handling
- **Soft Skills:** Team Leadership, Project Management, Problem Solving, Technical Documentation

## EDUCATION

<b>Marathwada Mitra Mandal's College of Engineering, Pune</b> B.E. - Electronics & Telecommunication   CGPA :7.29 /10	<b>Present</b>
<b>MJP Jr. College of Arts and Science, Kurduwadi</b> 12th   Percentage: 83.70 / 100	<b>2022</b>
<b>Nutan English Medium School, Kurduwadi</b> 10 <sup>th</sup>   Percentage : 86.80 /100	<b>2020</b>

## EXPERIENCE

### Design and Automation Intern – VVS System and Solution | Jan 2025 – Apr 2025

- Developed precise CAD models using AutoCAD and Fusion 360 for optimized design and maintenance.
- Designed and automated pneumatic switch systems for utility vehicles, improving operational efficiency.

### Team Lead – UAV & Drone Projects, Team Vajra (MMCOE) | 2023 – Present

- Led the drone team, piloted the drone to achieve World Rank 3 in FPV drone racing competition.
- Managed end-to-end UAV development using Pixhawk, APM, and SpeedyBee flight controllers.
- Supervised flight tuning, testing, and integration of embedded and automation systems.

## PROJECTS

### Line-Following Material Handling Bot with Phone-Controlled Robotic Arm

- Developed an ESP32-based autonomous robot capable of line-following navigation using an IR sensor array and PID motor control.
- Integrated a smartphone-controlled 4-DOF robotic arm with Wi-Fi/Bluetooth override for pick-and-place operations.
- Added ultrasonic obstacle detection and designed a lightweight chassis for smooth and safe warehouse material handling.

### 5-Inch FPV Racing Drone

- Designed and built a high-performance 5-inch FPV racing drone using the SpeedyBee F405 V3 flight controller.
- Optimized for agility, speed, and precise control through advanced component tuning.

### Autonomous Quadcopter (Delivery Application)

- Engineered an autonomous quadcopter using a CrossFlight flight controller and a low-cost custom telemetry module for payload delivery operations.
- Integrated autonomous navigation and waypoint-based control for precision delivery missions.
- Focused on low-cost UAV design optimized for real-world logistics and short-range aerial delivery.

### Autonomous Water Surface Cleaning Bot

- Designed and developed an autonomous water surface cleaning bot in Fusion 360, featuring real-time control via mobile interface.
- Secured Rank 1 in the Internal Smart India Hackathon (SIH) for innovation in eco-friendly automation.

## ACHIEVEMENTS

- **World Rank 3 & AIR 2** – Technoxian Drone Racing 2025 (32 international teams)
- **Cleared Level 2** – AeroGCS Global Competition
- **2nd Place** – MMCOE Dexterity 2K24 Drone Racing Simulator
- **4th Place** – AISSMS Silicon Fusion – Air-o-rush Event
- **1st Place** – Uddan 2K23 Drone Competition