PRATHMESH PATIL

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❖ Summary: -

UAV Systems Engineer with hands-on experience in drone integration, autonomy testing, embedded systems, and field operations. **Captain of Team Vajra with 20+ projects** in electronics & embedded and strong skills in Pixhawk, Betaflight, PID tuning, telemetry, and diagnostics. Achieved **World Rank 3** (FPV Race) at **TechnoXian 9.0**. Skilled in building, testing, and debugging UAVs for real-world environments.

❖ Education: -

- **Marathwada Mitra Mandal's College of Engineering, Pune** 2022-2026
  Bachelor of Engineering in Electronics & Telecommunication ***(CGPA: 7/10)***
- **Late P.B.Jog Jr. College** 2020-2022
  12th MSBSHE ***(Percentage: 54.67%)***
- **Sri Sri Ravishankar Vidya Mandir, Pune** 2010-2020
  10th CBSE ***(Percentage: 85%)***

❖ Experience: -

➢ **Captain, RC Drone Club: Team Vajra (MMCOE, Pune): -**
Worked on building, tuning, and testing high-performance UAVs. UAV system integration, autonomous mission development, and real-world drone testing for college competitions and R&D projects.

➢ **Intern (R&D), Nasan Medical Electronics Pvt. Ltd.: -**
Developed embedded and IoT prototypes, performed hardware debugging, built secure communication modules, and contributed to real-world electronics testing and validation for medical device applications.

❖ Projects: -

➢ **Autonomous Quadcopter (Delivery Application): -**
- Built autonomous UAV using **CrossFlight FC** with **GPS M8N** waypoint navigation, intelligent failsafes, and improved stability control.
- Created a custom telemetry module and optimized payload stability for smoother, more reliable delivery missions.

➢ **Pixhawk Quadcopter – Payload Delivery Platform: -**
- Built, tuned, and flight-tested a **Pixhawk**-based UAV equipped with a gripping mechanism for efficient payload handling.
- Performed extensive flight tests, mission execution, PID tuning, and thorough subsystem debugging for improved reliability.

➢ **High-Speed FPV Drone (SpeedyBee F405V3): -**
- Assembled, tuned, and tested a high-performance FPV racing UAV capable of stable high-speed flight maneuvers.

❖ Achievements: -

➢ **World Rank 3rd** - FPV Drone Race, TechnoXian 9.0 World Robotics Championship 2025.
➢ **World Rank 5th** - Drone Rescue, TechnoXian 9.0 World Robotics Championship 2025.

❖ Technical Skills: -

- **UAV Systems:** Pixhawk, Ardupilot, Betaflight, Mission Planner, PID tuning
- **Flight Ops:** Autonomous missions, FPV piloting, flight testing, failsafes, log analysis
- **Embedded:** C, C++, Python, Embedded C, STM32, ESP32, Raspberry Pi, RS485, MODBUS, UART/SPI/I2C
- **Tools & Hardware:** STM32CubeIDE, KiCad, Mender, Balena, Arduino IDE, Embedded Linux, GPS/IMU/ESC debugging, telemetry modules, power systems, sensor integration