

AMAN KUMAR OJHA

| [linkedin.com/in/aman-ojha-54b949212](https://www.linkedin.com/in/aman-ojha-54b949212) |

| aman.kumar.myr@gmail.com |

| +91 8770257701 |

PROFESSIONAL SUMMARY

Aerospace engineer focused on high-performance UAV design and systems integration, with a track record of driving rapid prototyping from concept through to deployment. Proven ability to lead product lifecycles from initial concept and design iterations to final testing, with a focus on delivering performance-optimized, mission-ready unmanned platforms. Looking to contribute within a professional R&D-driven organization where strong engineering execution and innovation-oriented development are highly valued.

EDUCATION

Bachelor of Engineering – Aerospace Engineering

Chandigarh University, Mohali

2020 – 2024 | CGPA: 7.32

PROFESSIONAL EXPERIENCE

Aerospace Integration and Design Engineer | Binford Research Labs Pvt. Ltd.

Jan 2024 – Feb 2025

- Spearheaded the design of **high-speed UAVs achieving speeds of 150+ km/h, endurance of 20-25 minutes**, and payload capacities up to 2kg; tuned flight control systems via **ArduPilot and Betaflight**.
- Designed and **fabricated custom carbon fiber drone frames** from scratch using **Autodesk Fusion 360**, achieving a 20% weight reduction while maintaining structural integrity and stiffness for **high-performance applications**.
- Developed and deployed an **AI-enabled drone** from concept to completion:
 - Integrated an AI processing unit and high-resolution camera for **real-time object tracking and video feed transmission to GCS**.
 - Trained and improved YOLOv5 detection models for accurate drone tracking.
 - **Engineered a 2-axis gimbal** for precise tracking at distances up to 100m.
- **Developed and integrated specialized heavy-lift drone systems** capable of carrying **10kg-16kg payloads**, including **EO/IR cameras** and communication relays, for extended surveillance operations.

Aerospace Engineer | Kalam Labs, Lucknow

Mar 2025 – Aug 2025

- **Engineered heavy-lift UAV systems** including a **16kg payload platform** with **optical fiber integration**.
 - **Developed coaxial quadcopter drones** with **5kg payload capacity**, autonomous **waypoint navigation** flight capabilities.
 - Designed and developed advanced UAV configurations including **twin-fuselage, VTOL, tail-sitter, and box-wing aircraft** to explore optimal performance for specialized missions.
 - Optimized flight dynamics **through PID tuning in Betaflight and INAV** for freestyle FPV drones, **enhancing stability and manoeuvrability during aggressive flight regimes**.
 - **Designed a modular drone platform** compatible with **8-13" propellers**, enabling rapid payload testing (up to 3kg) for diverse mission profiles.
 - Worked on a **stratospheric kamikaze UAV** with autonomous waypoint navigation, achieving precise long-range mission capabilities, and **achieving speed up to 900kmph**.
-

Founding Aerospace Engineer, Sentry Labs

Sep 2025 – Present |

- Led **aerospace-focused outreach programs**, delivering hands-on **UAV workshops** across 4+ schools, **engaging 300+ students** in practical UAV and drone systems and flight fundamentals.
 - Delivered engineering solutions and design projects, generating **300K-400K revenue** within 4 months.
 - Strengthened end-to-end engineering capability across **design → prototyping → testing → deployment**, designed and commercialized the **EPP-foam based UAV**.
 - Designed and built the **ESP32 Drone and ESP32 Plane** with in-house FC (designed and manufactured) and embedded firmware, **integrating BMI270 and BMP581** sensors, optimizing IMU/barometric processing and control stability.
 - Worked in **rapid prototyping** environment using **3D printing (FDM/SLA)**, enabling fast iteration of drone components and mechanical assemblies.
 - **Designed and optimized** custom UAV structures and components using **Fusion 360 and Siemens NX**, focusing on weight reduction, structural integrity, and manufacturability.
-

SKILLS

- **Aerospace Engineering:** UV Design & Prototyping, AI/Computer Vision Systems, **Waypoint Navigation**, Obstacle Avoidance, Systems Integration, Flight Dynamics, **PID Tuning**
 - **Engineering Software:** SolidWorks, **Fusion 360**, **ANSYS (Fluent, Static Structural)**, OpenVSP, **Mission Planner**, **Betaflight**, **INAV**, OpenCV
 - **Analysis & Simulation:** Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Aerodynamic Testing
 - **Manufacturing:** **3D Printing (FDM, SLA)**, Advanced Materials Prototyping, Machining, Carbon-Fiber Moulding
 - **Tools & Project Management:** Jira, Microsoft Office Suite
 - **Interpersonal Skills:** Team Leadership, Analytical Problem-Solving, Decision-Making, Bilingual Proficiency
-

LEADERSHIP, TRAINING & OUTREACH

Aerospace & Drone Workshop Instructor

- Conducted specialized drone operation workshops for military personnel, **training soldiers on the fundamentals of aerospace principles and practical drone flight techniques**.
 - Invited to deliver guest lectures and hands-on workshops on aerospace engineering for students at premier institutions **including IIT Bombay and IIT Delhi**.
 - Designed and led multiple public workshops **covering UAV technology, design principles, and flight dynamics**, fostering learning for over 300+ participants.
-

CERTIFICATIONS

- Certificate of Creativity and Critical Thinking – **LinkedIn Learning**
 - Flight Mechanics: The Basics – **Coursera**
 - Soft Skills Certification – **Chandigarh University**
 - State-Level Mathematics Olympiad – **Top 20%**
 - The Finite Element Methods for problems in physics - **Coursera**
-