ANURAG BISWAS

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OBJECTIVE

B.Tech CSE student (3rd Year) with a primary domain interest in UAV systems, embedded firmware, and autonomous flight. Award-winning engineer with hands-on experience deploying ArduPilot-based drones in healthcare, surveillance, and agriculture. DGCA-certified drone pilot actively leading drone and robotics education at university level.

EDUCATION

B.Tech in Computer Science & Engineering, Adamas University, Kolkata 2023 – 2027
CGPA: 7.25

SKILLS

Programming	C, C++, Python
Drone Stack	ArduPilot, Betaflight, INAV, MAVLink, Ruby FPV (Video TX Software)
Hardware	Pixhawk (2.4.8, 4), STM32, ESP32, DJI Naza M Lite
Design & Tools	Fusion 360, EasyEDA (PCB Design), Tinkercad, 3D Printing

EXPERIENCE

Embedded Systems Engineer Trainee May 2025 – Jul 2025
Vigilantia Praesidium Pvt. Ltd. *Kolkata, WB*

- Engineered and optimized a 12-inch surveillance drone achieving up to 40 minutes of tested flight time
- Built a 7-inch long-range surveillance drone with up to 25 minutes of sustained flight time
- Developed a 5-inch compact surveillance drone optimized for agile deployment in constrained environments
- Prototyped an underwater surveillance drone system (confidential project)
- Improved overall system reliability through iterative hardware tuning, calibration, and diagnostics

Student Coordinator Apr 2025 – Apr 2026
Adamas Robotics & AI Club *Adamas University, Kolkata*

- Led technical sessions and mentored junior students in drone systems and embedded development
- Organized and managed robotics and UAV-based project initiatives at university level

PROJECTS

Autonomous Medicine Delivery Drone *(ArduPilot, Pixhawk)* GitHub
Built a waypoint-based autonomous UAV with an onboard 2–8°C thermal regulation container for safe medical cargo transport. Implemented PID-controlled temperature management to preserve medication integrity during flight.
Awards: 1st – Vishwakarma Awards 2024 (MVF & IIT Hyderabad) • 1st – ICCPDM 2024 (HIT) • 1st – NEONATE 2K24 (GKCEM)

Non-Invasive Flap Monitoring System *(NIRS, PPG, ESP32)* GitHub
Developed a wearable system for real-time tissue oxygenation monitoring using NIRS and PPG sensors. Implemented low-power wireless data transmission for continuous remote patient monitoring.
Award: 1st – AIU Anveshan 2026 (East Zone Winner)

Multi-Vital Wearable Tracker for Elderly People *(ESP32, IoT)* GitHub
Built a wearable health monitor tracking SpO2, heart rate, body temperature, ECG, and fall detection with cloud data logging. Achieved up to 36 days of battery life with an integrated solar recharge system.

Awards: 1st – Adinova (Adamas University) • 2nd – HACK-O-NiT 2025 (NIT) • Finalist – Solvathon 2025 (Apollo & IIT Delhi)

Agriculture Hexacopter *(ArduPilot, Pixhawk)*
Designed and built a 12-inch hexacopter optimized for pesticide spraying with precision payload control. Capable of carrying up to 2kg payload; achieves up to 10 minutes of flight time in standard unloaded configuration.

FPV Endurance Drones (5", 7", 10") *(Betaflight, INAV, ArduPilot)*
Designed, built, and tuned multiple FPV drones from scratch across different weight classes with a focus on long-endurance flight. Performed full PID tuning, ESC configuration, and hardware integration for sustained aerial operations.

More Projects: indxanurag.vercel.app/#projects

CERTIFICATIONS

- **DGCA Certified Drone Pilot (Small Category)** – Amtron Drone School (Edurade), Assam Aug 2025

LEADERSHIP & ACTIVITIES

- Mentoring students at Adamas Robotics & AI Club in drone systems, embedded hardware, and autonomous flight.
- Represented university at national-level competitions at IIT Hyderabad, IIT Delhi, and NIT events, consistently achieving podium finishes across 6+ competitions.