

DIPANSHU KUMAR

B.Tech Aerospace Engineering Student | IIST
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OBJECTIVE

A passionate enthusiast about CubeSat development, specifically in **Attitude Determination and Control Systems (ADCS)** and **Flight Software Command and Data Handling**. Seeking to leverage skills in **C++**, **MATLAB**, and **Simulink** to contribute to student satellite missions.

EDUCATION

Indian Institute of Space Science and Technology (IIST)

Thiruvananthapuram, Kerala

B.Tech in Aerospace Engineering

2025 – Present

- **CGPA:** 8.7/10.0 (Semester 1), Scored A in C++
- **Relevant Coursework:** Mechanics, Calculus, Computer Programming.

TECHNICAL PROJECTS & EXPERIENCE

SatForge Satellite Workshop | IIST

Participant & Mission Planner

- Learned critical subsystems including **ADCS**, **EPS (Power)**, and **OBC**, focusing on inter-subsystem dependencies and integration challenges.
- Developed a preliminary “Concept of Operations” (ConOps) for the mission lifecycle.

Model Rocketry Workshop | IIST

Instructor & Launch Coordinator

- Facilitated a hands-on workshop teaching students the fundamentals of rocketry, including **Center of Pressure (CP) vs. Center of Gravity (CG)** stability analysis.
- Oversaw the assembly and safety checks for **40+ model rocket launches** in a single day, ensuring successful deployment of recovery systems.

RC Plane Design Project | IIST

Design & Control Lead

- Designed the **empennage (tail section)** to ensure longitudinal and directional stability of the aircraft.
- Implemented the control infrastructure, integrating **servos, receivers, and control linkages** to translate pilot inputs into surface deflections.

TECHNICAL SKILLS

- **Programming Languages:** C++ (Object-Oriented Programming, Pointers), Python, MATLAB.
- **Engineering Software:** MATLAB Simulink, Autodesk Inventor, AutoCAD.

SOFT SKILLS & INTERESTS

- **Soft Skills:** Critical thinking, Team planning, Adaptable to learn new technologies and work in multidisciplines.
- **Interests:** Geopolitics, Strategic Planning.
- **commitment:** Extremely curious to learn with full dedication and commitment.

REASON FOR INSPIRE - SAT 3

- I've been fascinated by space physics since my grade 7th and was always wanting to know more about internals of satellite. Joining this mission excites me because of global collaboration across LASP, IIST, and NCU which can help me to know about satellite production and working mechanism with different perspective. It also aligns with my long term goal of producing my own satellite and starting a space startup.

DOCUMENTS

- JEE - Under 1.4 % in 1.5 million student
- 12th CBSE – 90%
- 10th CBSE – 94%
- IIT Bombay Maths Olympiad - 289th AIR
- NTSE Stage 1 Qualified
- NDA - Reached till Conference