

DIPANSHU KUMAR

B.Tech Aerospace Engineering Student | IIST
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OBJECTIVE

A passionate enthusiast about Astrobiology Payload, specifically in **Mechanical Analysis Modelling Tools**. Seeking to leverage skills in **C++**, **MATLAB**, and **SolidWorks** to contribute to our college's payload mission.

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:** SolidWorks, Simulink, Autodesk Inventor, AutoCAD.

SOFT SKILLS & INTERESTS

- **Soft Skills:** Critical thinking, Team planning, adaptability to learn new technologies and work in multidisciplines, Fast learner.
- **commitment:** Extremely curious to learn with full dedication and commitment.

REASON FOR APPLYING IN ASTROBIOLOGY PAYLOAD

- I've been fascinated by space physics since my grade 7th and was always wanting to know more about how payloads are designed and how they are integrated with main launch. 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