

# PARTH JAIN

parthjain03@gmail.com | +91 9717187800 | New Delhi, India | [LinkedIn](#) | [Website](#)

## EDUCATION

**Manipal Institute of Technology (MIT), Udupi, India** *Oct 2021 to Jul 2025*  
**Bachelor of Technology (Aeronautical Engineering)**  
**Minor Specialisation in Digital Marketing (CGPA 8.06)**

**Tagore International School, Delhi, India**  
**Central Board of Secondary Education**  
**Class XII (89%)** 2021  
**Class X (90%)** 2019

## EXPERIENCE

**Eon Space Labs, Hyderabad, India** *Aug 2025 to Present*

### **Systems Engineer**

- Responsible for systems engineering across the company's space and defence products, with a core focus on the space product lineup.
- Improved MIRA, India's lightest space telescope, by achieving an additional 16% mass reduction through structural optimisation and redesign.
- Oversaw assembly, integration, and testing of the star tracker and space telescope to ensure reliable performance.
- Performed structural and thermal simulations, and contributed to CFD and performance analysis for the Lumira EO/IR camera series designed for drones and UAVs.
- Lead engineer for the in-house pan-tilt system developed for defence tracking and surveillance applications.

**U R Rao Satellite Centre (ISRO), Bengaluru, India** *Jan 2025 to Jun 2025*

### **Project Trainee - Thermal Systems Group**

- Developed aerobraking control strategies for upcoming interplanetary missions; mentors recognised the work as foundational for future modelling efforts.
- Built a comprehensive simulation framework integrating DSMC aerothermal analysis, orbital mechanics, and thermal modelling for accurate prediction of spacecraft behaviour during aerobraking.
- Conducted parametric studies to quantify the influence of angle of attack, atmospheric density, and accommodation coefficients on aerodynamic forces and thermal loads.
- Implemented preventive control methods at apoapsis and reactive strategies during atmospheric passage to enhance mission safety and efficiency.

**thrustMIT Student Rocketry Team, Manipal, India** *Dec 2021 to Oct 2024*

### **Team Leader | Structural Design Engineer**

- Led a 54-member cross-functional team across mechanical, avionics, and payload subsystems.
- Project Manager and Structural Lead for Project AgniAstra, achieving Mach 1.7 and 17,010 ft, making it the first student-built rocket from India to break the sound barrier at Spaceport America Cup 2024.
- The team ranked 1st in Asia (30K COTS category) and 7th out of 152 teams worldwide in the Project Technical Report domain.
- Contributed to the design, manufacturing, and testing of multiple systems for Project Altair, a sounding rocket that successfully reached 10,331 ft at Spaceport America Cup 2023.
- Implemented the team's first dual-bay separation recovery system, developed CO<sub>2</sub>-based deployment mechanisms, and supported M-class solid rocket motor static fire operations.

**IE Aerospace, Student Chapter, Manipal, India** *Jul 2022 to Sep 2024*

### **Technical Head**

- Organised and hosted technical events and guest talks, including the flagship Air Crash Investigation, while training 20+ junior members in structural design and analysis, composite manufacturing practices, and engineering fundamentals.
- Participated in the student delegation to Aero India 2023.
- Contributed to Team FlightForge for NACDeC VII, focusing on structural analysis and subsystem design for a conceptual Martian PBL UAV; designed the solar panel deployment mechanism. The team secured second place nationally.

## ACHIEVEMENTS

---

- Secured second place among 45 teams at the 7th National Aerospace Conceptual Design Competition (NACDeC-VII), organised by The Aeronautical Society of India (AeSI). The team received a cash prize of ₹1,25,000 for their conceptual UAV designed for Martian atmospheric studies.
- Achieved third place at Vedanth 13.0, the national-level technical exhibition hosted by the Manipal Institute of Technology. The team demonstrated advanced rocketry innovations, including a novel airbrake mechanism, and received a cash prize of ₹15,000.
- Featured on MyGov India for thrustMIT's achievements at Spaceport America Cup 2024. Link: <https://blog.mygov.in/editorial/celebrating-indias-young-innovators-who-outshined-at-spaceport-america-cup-2024/>
- Shortlisted among the top 20 teams globally for the Airbus Sloshing Rocket Workshop, an international competition focused on propellant sloshing behaviour and flight dynamics modelling.

## PATENTS AND PUBLICATIONS

---

- Filed and published a utility patent for "*Sounding Rocket Device with Fin and Motor Alignment Attachment*" (Application No: 202441075844), optimising assembly precision and structural integrity in sounding rockets.
- First author of "Predictive Thermal Control Strategies for Aerobraking: Peak Temperature Forecasting and Adaptive Maneuvers," accepted for presentation at the 28th National and 6th International ISHMT-ASTFE Heat and Mass Transfer Conference.

## CERTIFICATIONS

---

- Digitalisation in the Aerospace Industry - TUM / Coursera
- Digitalisation in Aeronautics - TUM / Coursera
- Flight Mechanics: The Basics - ISAE-SUPAERO / Coursera
- Simulink Onramp - MathWorks
- Simulink Fundamentals - MathWorks
- Mechanical Engineering Design & Manufacturing with Fusion 360 - Autodesk / Coursera
- Simulation Analysis for Mechanical Engineers (Fusion 360) - Autodesk / Coursera

## SKILLS

---

- **Technical & Engineering:** Structural & Thermal Analysis (ANSYS Mechanical), CFD (Fluent), DSMC Simulation (SPARTA), Composite Structures, GD&T, DFMA, Flight Mechanics, Aerobraking Analysis, Orbital Modelling
- **Systems Engineering:** Requirements Breakdown, System Architecture Definition, Verification & Validation (V&V), FMEA, Risk Assessment, Configuration Management, AIT Planning, Documentation & Reporting
- **Design & CAD:** SolidWorks, Fusion 360, NX, CATIA, AutoCAD; Assembly Modelling, Design Optimisation, Engineering Drawings, CAD-based Mass Estimation
- **Manufacturing & Prototyping:** Composite Layup & Fabrication, Additive Manufacturing, Basic Machining, Hardware Integration, Design for Manufacturability
- **Testing & Validation:** Assembly, Integration & Testing (AIT) for space hardware, Structural Testing, Thermal Verification, Performance Evaluation
- **Software:** MATLAB, Simulink, ParaView, Python (basic), SPARTA, NASA GMAT, MS Office Suite