

Arnav Marwaha

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EDUCATION

- MIT, Manipal,** 2025 | Manipal, India
B.Tech Mechanical Engineering, Minor Specialisation in Machine Design
- The Shri Ram School Aravali,** 2021 | Gurgaon, India
ISC Physics, Chemistry, Maths, Computer Science and English

PROFESSIONAL EXPERIENCE

- Parikshit Student Satellite, System Engineer** 10/2023 – 11/2024 | Manipal, India
The responsibilities undertaken include :
 - Specifying the system requirements
 - Maintaining the budget
 - Ensuring proper integration between the multiple subsystems on the satellite
 - Leading meetings with representatives from the college, InSpace, ISRO and any other concerned parties
 - Leading, mentoring and recruiting a team of 35+ members across multiple disciplines.
- GE Aerospace, Intern** 05/2024 – 07/2024 | Pune, India
 - Gained a holistic view of the manufacturing processes and the various quality control measures involved in aerospace manufacturing such as the FAI or SQA.
 - Participated in the Kaizen event dealing the manufacturing of tubes, which resulted in a cycle time reduction of more than 50%
 - Conducted a statistical process control for the 6 σ Yellow Belt Certification.
- Parikshit Student Satellite, Structures, Thermals and Mechanisms Head** 02/2022 – 11/2024 | Manipal, India
As the STMS Head, I have been responsible for the external structure, internal layout, and mechanisms on the 2U Class NanoSatellite. Modules completed include:
 - The comparative analysis and subsequent redesign of the on board Reaction Wheels
 - The satellite's structural design and preliminary analysis were performed, and updates to the older design led to a 33% decrease in the weight of the satellite's primary structure.
 - Design of an in-house test facility for validation testing.Leading the subsystem included deciding the timeline, as well as the task allocation.
- Defence Research and Development Lab, DRDO, Project Intern** 06/2023 – 07/2023 | Hyderabad, India
The final project included
 - CFD analysis of the NACA 0012 airfoil
 - literature review on jet vane design and analysis
 - aerodynamic simulation of the flow through a converging-diverging nozzle with a jet vane thrust vector control system at the nozzle outlet

AWARDS

- Winners, Asian Regional Space Settlement Design Competition** 01/2020
Served as a primary member in the design of a torus based artificial gravity space settlement situated on Phobos, a moon on mars. The designs for the settlement won the international competition. Qualification for the asian competition was based on the performance in 3 earlier rounds of document submissions with varying parameters.

PROJECTS

- Design of a hot water jacket heat exchanger** 03/2024
Designed and manufactured a hot water jacket with the aim of heating air flowing through the duct. Calculations were done to assess the efficiency of the heat exchanger.
- Experimental setup to find the melting point of phase change materials** 11/2023
Designed an experimental setup to find the melting point of phase change materials used for lubrication in various mechanical systems using thermocouples, a hot water bath and test tubes.
- Comparative analysis of connecting rod designs and materials** 03/2024
Used CAD modelling and ANSYS Mechanical to compare 3 different geometries for connecting rods for 3 different materials.

SKILLS

Computer Aided Design — Fusion 360, CATIA, **Computational Fluid Dynamics** — ANSYS, Siemens Star CCM+, **Finite Element Analysis** — ANSYS, **System Engineering**, 6 σ Yellow Belt