ADARSH RAJPUT

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EDUCATION

Bachelor of Technology in Aerospace Engineering July 2022 - July 2026
Vellore Institute of Technology CGPA 8.45

CBSE, Class XII Aug 2020 - Aug 2021
Springdales Senior Secondary School, Hoshangabad 95%

SKILLS & INTEREST

Skills Fusion 360, SOLIDWORKS, Ms Excel, MIcrosoft Office
Interest 3D Modelling, Mechanical Part Design, Simulations, FEA, CFD

PERSONAL PROJECTS

Design and Analysis of Solid Rocket Motor **Aug 2025**

- Designed a thin-walled pressure vessel using analytical aerospace design principles.
- Developed a detailed SOLIDWORKS model with realistic nozzle and interface constraints.
- Performed static structural FEA to evaluate stress, deformation, and safety factor.
- Verified numerical results against analytical calculations to ensure model accuracy.
- Assessed material selection (Al 6061-T6) based on safety margins and manufacturability.

ACADEMIC PROJECTS

Infrared Signature Suppression System for Helicopter **Winter 2024**

- Worked on a system-level thermal suppression solution for Mi-17 V5 helicopter tail section.
- Designed spectrally selective solar absorber and hollow cylindrical microstructures for heat dissipation.
- Modeled the suppression system for the Mi-17 V5 tail section using Fusion360, ensuring geometric accuracy.
- Executed thermal FEA evaluating signature reduction under operational load conditions.
- Researched and benchmarked six existing IR countermeasure technologies (e.g., film-cooled tailpipes, BHO) to validate design competitiveness.

Design of Self-balancing Cycle **Fall 2024**

- Modeled key components in Fusion360, including the structural frame, wheels, and handlebar.
- Led the detailed 3D design of the chain sprocket and drivetrain assembly for a 9-member team, ensuring precision and collaboration.
- Applied advanced CAD methodologies to optimize prototype mass distribution for improved balance and efficiency.
- Conducted component-level finite element analysis (FEA) to evaluate stress distribution across critical parts.
- Validated structural integrity and performance margins under simulated load conditions, confirming design reliability.

CERTIFICATIONS

- NPTEL Aircraft Design
- Engineering Project Management Coursera
- Overview of Space Science and Technology IIRS ISRO

ACTIVITIES

- Participated in a two-day workshop focused on gas turbine technologies at the ICASTI conference in 2025.
- Aerogo India: RC Plane Design and Fabrication Workshop.
- Industry ready Workshop on CFD (FOSSEE).