Bhavya Mathur

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Education

Vellore Institute of Technology (VIT) Bhopal University **October 2022 – September 2026**
Bachelor of Technology in Aerospace Engineering *CGPA : 7.72*

Technical Skills

Programming Languages: Python, Java, MATLAB, HTML/CSS, SQL
Simulation & Design Tools: SolidWorks, OpenFOAM, ANSYS, Fusion 360
Technologies & Frameworks: Linux, Arduino IDE, LaTeX, Paraview

Experience

Malaviya National Institute of Technology, Jaipur **May 2025 – June 2025**
Intern – Space Radiation Shielding & Spacecraft Protection

- Improved space radiation model accuracy by 15% using Python simulations based on NASA's HZETRN framework.
- Automated data processing and visualization, reducing analysis time by 30%.
- Collaborated with IIT and NIT researchers on interdisciplinary projects.

India Space Lab **December 2024 – January 2025**
Winter Intern – Satellite Systems & UAV Technologies

- Designed 1U CubeSat systems, improving structural integrity by 25% via CAD and simulation.
- Integrated RF and sensor modules, enhancing data acquisition reliability by 40%.
- Secured All India Rank 464 among 2,000+ applicants.

Wellsphere360 **October 2024 – December 2024**
Chief Operations Officer Intern

- Boosted sales conversion by 40% through optimized PPC campaigns and CRM workflows.
- Increased social media followers sixfold, growing reach from 5,000 to 30,000.
- Streamlined daily operations, improving team efficiency by 35%.

Projects

Mobius Strip Design for Turbine Blades | *SolidWorks, CAD Simulation, Turbomachinery* **August 2023 – May 2025**

- Developed turbine blade designs inspired by Möbius strip, improving simulated jet engine efficiency by 30%. `GitHub`
- Validated aerodynamic performance with CAD simulations, reducing drag by 12%.
- Produced detailed CAD models to aid manufacturing feasibility.

Heat Transfer in a Closed Cavity – OpenFOAM | *OpenFOAM, ParaView, Bash Scripting* **March 2025 – April 2025**

- Simulated natural convection using OpenFOAM, achieving results within 5% error margin. `GitHub`
- Automated workflow with Bash scripting, reducing manual work by 50%.
- Enhanced visualization speed by 25% using ParaView.

Team GarVIT – ATV Development | *SolidWorks, ANSYS, Team Management* **November 2022 – May 2024**

- Led design and simulation, improving strength-to-weight ratio by 15%. `GitHub`
- Achieved All India Rank 2 in eBAJA SAE India, securing 3 lakh sponsorships.

Achievements

- Awarded 3rd Place in Poster Presentation at ICSATI 2025, including a 5,000 cash prize.
- Book Chapter – Taylor & Francis (Accepted): *Smart Grid and Energy Management in SCPS*, 2024.
- eBAJA SAE India Competition: Achieved All India Rank 2 in Sales Event, awarded 15,000; secured top ranks in Green Efficient (AIR 11), Build Quality (AIR 15), Static Score (AIR 21), Endurance (AIR 37), and Overall (AIR 44).
- Mega ATV Competition: Won 1st Place in Armageddon Race; secured 2nd Runner-Up Overall and 30,000 prize money.
- Won 1st Prize at FINWIZZ Competition - Fintech Club.

Certifications

- Quantum Computing – C-DAC Hyderabad IIT Roorkee, Completed with merit — June 2025
- Computational Fluid Dynamics – IIT Madras (NPTEL), 12-week course — January 2025 – April 2025
- Aircraft Design – IIT Kanpur (NPTEL), 12-week course — January 2024 – April 2024
- Wind Energy – Technical University of Denmark (DTU) via Coursera — December 2023 – January 2024
- FOSS4G – ISRO Open-source GIS Tools Training — July 2023 – August 2023
- Digitalisation in Aerospace – Technical University of Munich (TUM) via Coursera — June 2023 – July 2023