Arpit Mathur

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EDUCATION

B.Tech in Mechanical Engineering	Birla Institute of Technology, Mesra, Ranchi	90.2%	2021 - 2025
Class XII	B V B Vidyashram Pratap Nagar, Jaipur	97%	2020 - 2021
Class X	B V B Vidyashram Pratap Nagar, Jaipur	93.2%	2018 - 2019

WORK EXPERIENCE

Research Intern

School of Mechanical Engineering, Georgia Institute of Technology | Atlanta, USA | Jun 2024 – Jul 2024

- Achieved a 58.5% reduction in brake pedal weight by utilizing Autodesk Fusion 360's Generative Design feature, resulting in a safer and stronger component compared to conventional designs.
- Ensured design feasibility by conducting finite element analysis (FEA) simulations in Ansys Mechanical, resulting in the identification and mitigation of potential failure points.
- Facilitated the fabrication of a brake pedal prototype through SLS 3D printing, resulting in the successful assessment of manufacturability and real-world application.
- Refined understanding of advanced engineering concepts by synthesizing literature on generative design and FEA methodologies, leading to more informed project decisions and enhanced research skills.

Vehicle Dynamics Engineer

Team Srijan | Ranchi, India | Mar 2023 – Present

- Developed an accurate tire model in MATLAB using the Magic Formula 6.2 and data from the Formula SAE Tire Test Consortium, enhancing the team's ability to predict tire behaviour under various conditions.
- Engineered new front and rear suspension systems in collaboration with teammates using Lotus Shark software, resulting in an optimized design for the next Formula Student Electric prototype.

SKILLS

Technical: Generative Design, Autodesk Fusion 360, CAD, SolidWorks, Finite Element Analysis, Ansys Workbench, MATLAB, Simulink, Rapid Prototyping, 3D Printing Technologies (SLS, FDM), Vehicle Dynamics, Geometric Dimensioning and Tolerancing (GD&T)

Soft: Creativity, Problem-Solving, Critical Thinking, Adaptability, Teamwork

POSITIONS OF RESPONSIBILITY

Procurement and Manufacturing Head | Team Srijan | Jul 2024 - Present
Coordinated with the team to secure crucial raw materials, enabling production of our next prototype.

Joint Treasurer | ASME BIT Mesra Student Section | Apr 2024 – Present
Supported the organisation in managing limited initial funds, facilitating successful events that strengthened our campus presence.

PROJECTS

Investigative Study on Effect of Drop Height in Smartphone Drop Test | Dec 2023 – Feb 2024