

Kushank Aggarwal

Delhi | +91 8130745430 | kushank2005@gmail.com | [linkedin.com/in/kushaggar](https://www.linkedin.com/in/kushaggar) | kushank.vercel.app

EDUCATION

Delhi Technological University, Delhi

August 2023 – May 2027

Bachelor of Technology, Mechanical Engineering with Specialization in Automotive Engineering

CGPA: 8.23/10

EXPERIENCE

Summer Research Intern | *Indian Institute of Technology, Delhi*

May 2025 – July 2025

- Developed a high-precision displacement sensor targeting micron-level (10^{-6}m) measurement accuracy by analyzing mechanical strain patterns and material deformation characteristics under displacement.
- Implemented MATLAB-based data visualization and analysis of strain–displacement behavior, deriving theoretical formulations to validate experimentally observed correlations.

Mechanical Trainee | *Mecrox Tech Pvt. Ltd., Gurugram*

December 2024 – January 2025

- Facilitated in the prototype manufacturing of the brake pedal assembly for **Surge 32**, a convertible 2-in-1 electric vehicle project by Hero MotoCorp
- Generated laser-cut manufacturing drawings with GD&T, maintaining dimensional tolerances up to $\pm 0.02\text{ mm}$
- Executed hands-on fabrication processes including grinding, buffing, cutting, and welding, gaining 60+ hours of practical experience with industrial machinery. [Certificate](#)

Mechanical Design Intern | *Innovante Engineering Solutions, Gurugram*

May 2024 – July 2024

- Designed a water-resistant PCB enclosure with a O-ring sealing system, achieving **20–25%** controlled compression through tolerance stack-up aligned with **IP67** design principles to ensure **1m** immersion protection.
- Identified gaps through benchmarking **10+** tracking devices and proposed modular attachment extensions, expanding potential use cases to 3 distinct user segments.
- Translated conceptual requirements for Wearenote.com into **5+** manufacturable mechanical designs. [Certificate](#)

SKILLS

ANSYS Workbench (DesignModeler, Mechanical), SolidWorks (Weldments, Surfacing), Autodesk Fusion 360, Finite Element Analysis (FEA), MATLAB, Python, GD&T, DFM, Composite Manufacturing (E-glass, epoxy), Rapid Prototyping, Fabrication (welding, grinding, metal forming)

PROJECTS

Arka | *Bharat Solar Vehicle Challenge (BSVC), 2025*

July 2025 – October 2025

- Manufactured an aerofoil-shaped solar vehicle chassis and body architecture, achieving a drag coefficient (Cd) of **0.13** through CFD-driven aerodynamic refinement and surface optimization.
- Engineered and validated a **32kg** tubular space-frame using SolidWorks Weldments, delivering torsional rigidity of **1800 Nm/deg** through FEA-based structural validation.
- Integrated **AISI 4130** Chromoly steel members, leveraging high strength-to-weight ratio of around 0.06, fatigue resistance, and weld integrity to meet BSVC safety compliance.
- Developed and produced a lightweight composite body using E-glass fibre, core mat, and epoxy resin system through hand layup process, ensuring dimensional stability and aerodynamic contour finish.

POSITIONS OF RESPONSIBILITY

Head Aerodynamics and Chassis | *Team DTU Supermileage*

September 2023 – Present

- Supervised a **7-member** sub-team within a **50+** member vehicle team, achieving a **35% reduction** in drag coefficient (Cd) for Project Arka through iterative CFD validation.
- Modeled and supervised tubular chassis fabrication and composite body manufacturing, overseeing complete vehicle assembly, representing DTU at Bharat Solar Vehicle Challenge (BSVC) 2025, Coimbatore.

Vice President | *American Society for Mechanical Engineers, DTU*

September 2023 – Present

- Led a **30-member** core team and **80+ volunteers**, organizing 6+ annual technical seminars and competitions, including a flagship CAD workshop engaging more than **200 participants**.
- Drove an **80% growth** in active membership through engaging PR stunts and established a dedicated R&D division to promote participation in national-level competitions such as Smart India Hackathon.