Saif Shakeel

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EDUCATION

Bachelor of Technology in Mechanical Engineering — July 2026
[Zakir Husain College of Engineering and Technology, AMU]

SKILLS

CAD: SolidWorks, AutoCAD
Analysis: ANSYS, Abaqus, SIMULINK, Realis WAVE
Programming: Java, MATLAB
Other: MS-Excel, MS-Word, Welding, Project Management, Technical Documentation

EXPERIENCE

Intern — June 2025
[International Centre for Automotive Technology, Manesar]

- Executed regulatory Type-I emission tests on E20-compliant M1 category vehicles using AVL chassis dynamometer.
- Defined test conditions simulating Modified Indian Driving Cycle (MIDC) for homologation validation.
- Operated Horiba VETSONE analyzers (NDIR, FID, CLA) to quantify CO, NOx, HC, and PM emissions.
- Verified compliance against BS VI notification limits, enabling certification readiness for client vehicles.

SAE-ZHCET Collegiate Club, Aligarh

Team Captain — Nov 2024 – Present
[ZHCET Formula Racing]

- Spearheaded strategic planning for Formula Imperial 2025 by developing structured preparation timelines.
- Directed 30-member team through streamlined communication protocols to align technical and non-technical functions.
- Allocated resources across design and testing domains to ensure a balanced project execution.
- Positioned team competitively for national-level Formula Student events with coordination and optimal output.

Secretary — Aug 2024 – June 2025

- Revitalized club through targeted recruitment drives and technical engagement workshops.
- Designed outreach strategies that increased membership by 15% and participation by 20%.
- Established knowledge-sharing sessions to enhance retention and skill-building among members.
- Delivered measurable improvement in organizational visibility and long-term member commitment.

Powertrain Lead — Feb 2024 – Oct 2024
[ZHCET Formula Racing]

- Led redesign of FSAE ZFR 5.0 intake system to eliminate previous performance constraints.
- Coordinated a 7-member technical team through CAD/CAE design cycles and iterative simulations.
- Applied advanced modeling techniques to optimize airflow and combustion efficiency.
- Achieved 12% improvement in overall engine performance, directly enhancing vehicle competitiveness.

Powertrain Member — Feb 2023 – Jan 2024
[ZHCET Formula Racing]

- Analyzed existing intake, exhaust, cooling, and drivetrain systems to identify performance bottlenecks, and proposed evidence-based improvements for powertrain subsystems, resulting in measurable performance gains.

PROJECTS

Design and optimization for an FSAE intake system, *Aligarh*

- Modeled intake system with varying cross-sectional geometries in SolidWorks to maximize airflow.
- Applied Helmholtz Resonance principles to refine plenum tuning and pressure wave dynamics.
- Conducted flow simulations in ANSYS Fluent and engine simulations in Realis WAVE.
- Delivered 27% performance improvement and 12% higher volumetric efficiency compared to baseline.

Thermal Optimization of a Cutting tool, *Aligarh*

- Analyzed thermal and structural failures in cutting tool microchannel design.
- Executed FEA simulations in ANSYS using Explicit Dynamic and Transient Thermal solvers.
- Evaluated 7 design alternatives to assess cooling efficiency and stress distribution.
- Validated optimized design through predictive modeling, extending tool life under operational conditions.