

S SAI TEJA

B TECH AUTOMOBILE ENGINEERING

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SUMMARY

Automobile Engineering graduate with strong foundations in mechanical engineering, manufacturing processes, production operations, and mechanical systems. Hands-on exposure to automotive workshop operations, component inspection, fault diagnosis, engineering testing, data collection, analysis, and technical documentation. Familiar with CAD tools including CATIA V5, SolidWorks and AutoCAD, along with MATLAB/Simulink and basic ANSYS. Strong understanding of quality awareness, process improvement, problem-solving, safety, and shop-floor practices, with a willingness to learn and contribute to production efficiency and continuous improvement.

ACADEMIC PROJECTS

Cost Effective Natural Fiber Hybrid Composite Material For Ballistic Protection Application **Dec 2025 - May 2026**

- Conducted experimental analysis on kenaf fibre and wild almond shell powder reinforced epoxy composites for ballistic protection applications.
- Performed alkali treatment, composite fabrication using hand layup and compression molding, followed by ASTM-standard ballistic impact testing.
- Evaluated energy absorption, penetration resistance, and C-scan damage analysis to identify the optimum filler composition for improved ballistic performance.

Free Vibration Characteristics Of Hybrid Natural Composite Using Kenaf Fibre, Wild Almond Shell Particle And Epoxy Resin **Jun 2025 - Nov 2025**

- Conducted experimental and simulation-based analysis on hybrid natural composites reinforced with kenaf fibre and wild almond shell particles.
- Performed alkali treatment on kenaf fibres and optimized wild almond shell powder proportions to improve natural frequency and damping characteristics.
- Fabricated composite specimens using hand layup and compression molding techniques, followed by ASTM-standard vibration testing and result analysis.

PCCI Engine with Split Injection – Advanced Simulation **Dec 2024 - May 2025**

- Modeled split-injection strategies to improve fuel-air mixing and optimize combustion phasing.
- Conducted performance evaluation using simulation-driven data analysis, heat release modeling, and efficiency mapping.
- Demonstrated proficiency in simulation tools, design iteration, and multi-parameter optimization.

PCCI Engine – Design & Combustion Simulation **Jul 2024 - Dec 2024**

- Designed and simulated a Premixed Charge Compression Ignition (PCCI) engine focusing on combustion efficiency, emissions reduction, and thermal performance.
- Conducted design analysis, parameter optimization, and model validation.
- Strengthened knowledge of powertrain simulation, CAE workflows, and engine R&D methodologies.

Battery Management System – Modeling & Simulation **Dec 2023 - May 2024**

- Developed a Battery Management System (BMS) using MATLAB/Simulink for EV applications.
- Performed system-level modeling, fault detection, SOC estimation, and thermal performance analysis.
- Enhanced understanding of embedded algorithms, system diagnostics, and digital twin modeling.

TECHNICAL SKILLS

- **CAD & Design Tools:** SolidWorks | AutoCAD | Engineering Drawings | CAD Modeling | Basic ANSYS | Catia V5
- **Simulation & Analysis:** MATLAB/Simulink | Engineering Analysis | Design Validation | System Modeling
- **Mechanical Engineering:** Thermodynamics | Strength of Materials | IC Engines | Vehicle Systems | Manufacturing Processes
- **Software & Documentation:** MS Excel | MS Word | MS PowerPoint | Technical Documentation | Engineering Report Writing
- **Professional Skills:** Analytical Thinking | Problem Solving | Team Collaboration | Communication Skills | Time Management
- **Core Competencies:** Product Development | Design Engineering | CAD Models | Engineering Drawings | Technical Documentation | Technical Reviews | Manufacturing Operations | Process Improvement | Engineering Analysis | Cross-Functional Collaboration

EDUCATION

Hindustan Institute of Technology & Science

Aug 2023 - Apr 2026

B.Tech – Automobile Engineering - CGPA: 8.68

- B.Tech in Automobile Engineering with strong academic performance and deep understanding of vehicle systems, design, and simulation tools.

Sankethika Polytechnic College

Aug 2020 - Jun 2023

Diploma – Automobile Engineering - 85.68%

- Diploma in Automobile Engineering with solid practical exposure to automotive fundamentals, diagnostics, servicing, and workshop operations.

PROFESSIONAL EXPERIENCE

Support Trainee – PPS Ford

July 2022 - Dec 2022

- Assisted in diagnostics, servicing, and mechanical inspections of passenger vehicles.
- Supported senior technicians in identifying issues related to powertrain performance, vibrations, and component wear.
- Gained exposure to data-based troubleshooting, technical reporting, and workshop engineering practices.

Support Trainee – Central Honda

Oct 2023 - Nov 2023

- Worked on vehicle maintenance, fault detection, and performance evaluation.
- Understood system-level behavior for engine, suspension, braking, and electrical subsystems.
- Prepared basic documentation including maintenance logs and inspection reports.

Support Trainee – Central Honda Bodyshop

May 2024 - Jun 2024

- Assisted in damage assessment, panel repair, and surface preparation of accident-damaged vehicles, ensuring structural and aesthetic restoration to standard.
- Gained hands-on exposure to body filling, sanding, priming, painting, and finishing processes including colour matching and clear coat application.
- Prepared and maintained workshop documentation including damage estimation sheets, repair job cards, and inspection checklists in accordance with body shop quality standards.

CERTIFICATIONS & PUBLICATIONS

- **Certifications:** Introduction to Finite Element Analysis (Internshala).
- **Publications:** ICSMSM Conference 2026 on Optimization of Wear Properties of Wild Almond Shell Particle Kenaf Fiber Epoxy Hybrid Composite
- ICSMSM Conference 2026 on Free Vibration Characteristics of Hybrid Natural Composite Using Kenaf Fibre, Wild Almond Shell Particle and Epoxy Resin