

HARI M B

harimb53@gmail.com | +91 9544823862 | [linkedin.com/in/harimb](https://www.linkedin.com/in/harimb) | Kollam, Kerala

SUMMARY

Mechanical Engineering undergraduate with experience in CAD, FEA, CFD, vehicle dynamics, and structural analysis. Passionate about product design, simulation, and engineering problem-solving.

EDUCATION

B. Tech in Mechanical Engineering Sep 2023 - Present
TKM College of Engineering, Kollam, Kerala **CGPA: 8.21**

TECHNICAL SKILLS

Design & Engineering: Mechanical Design, CAD, Product Design, Design Optimization, System Integration, Prototyping
Analysis: FEA, Structural Analysis, Structural Dynamics, Vibration Analysis, CFD, Thermal Analysis, Vehicle Dynamics.
Automotive: Chassis Design, Suspension & Steering, Powertrain Integration.
Documentation: DVP, DFMEA, Technical Documentation, Gantt Charts
Software: Ansys Mechanical, ANSYS Fluent, SolidWorks, MATLAB.
Languages: English (Professional), Hindi, Malayalam (Native).

EXPERIENCE

Design Head (Trax Moto Student Team) Nov 2024 - Oct 2025

- Led a 3-member team through the complete design cycle, from concept to manufacturability.
- Designed a chromoly trellis chassis optimized for strength, weight, and system integration.
- Performed benchmarking and iterative SolidWorks design, including PVC prototyping and ergonomic optimization.

Technical Member (Analysis, Suspension, Powertrain) (Trax Moto Student Team) Nov 2024 - Oct 2025

- Analysis:** Performed FEA on the frame for frontal impact and modal analysis to validate structural integrity.
- Suspension:** Integrated components, set suspension angles, and optimized rake/trail for stability.
- Powertrain:** Integrated fuel line and drivetrain systems; ensured alignment and reliability.
- Documentation:** Compiled design reports, DVP, DFMEA, and Gantt charts for project tracking.

Summer Research Intern (NIT Calicut) June 2026

- Developed finite element models using ANSYS Mechanical for vibrating screen beam structures.
- Conducted modal, harmonic response, and transient structural dynamic analyses.
- Evaluated stress, deformation, and vibration behavior.

Mechanical Engineering Intern (Cochin Shipyard Limited Kochi, Kerala) May 2026

- Gained exposure to shipbuilding processes, block construction, hull fabrication, and outfitting.
- Learned production planning, project management and Inspection and Quality Control (IQC).

ACADEMIC PROJECTS

Thermal Performance of Heat Exchanger with Helical Fins Jan 2025 - Apr 2025

- Led a CFD study of a counterflow double-pipe heat exchanger using ANSYS Fluent to optimize heat transfer.
- Result:** Optimized configuration (20.25mm fin height) increased heat transfer rate by 55% compared to baseline.

Sprocket Wear Study Using Different Lubricants Aug 2024 - Nov 2024

- Evaluated lubricant performance on C45 steel sprockets using pin-on-disc testing by analyzing wear and coefficient of friction under varying loads and speeds. Dynamic Stability Analysis of Porous Functionally Graded Plates with Aerodynamic Damping under Thermal Environment

Dynamic Stability Analysis of Porous Functionally Graded Plates with Aerodynamic Damping under Thermal Environment. | Ongoing

- Developing a numerical model incorporating power-law material gradation, porosity, and Mindlin plate theory
- Performed static bending, free-vibration, and buckling analyses and validated results against published data; extended the model toward aero-thermoelastic dynamic stability.

CERTIFICATIONS

- ECU TUNING • AI for Design and Optimization • Theory of Production Processes (NPTEL) • Prompt Engineering for Everyone