

Kiruthiskiran Vadivel

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Profile Summary

Motivated and detail-oriented Mechanical & Automotive Engineer with a strong foundation in mechanical design, simulation, and vehicle systems. Holds an MSc in Automotive Engineering with hands-on experience in CAD modeling, FEA/CFD simulation, electric vehicle modeling, and sustainability analysis. Demonstrated ability to apply engineering principles through academic and real-world projects, backed by in-plant training and advanced certification. Seeking opportunities to contribute to innovative design, testing, or simulation teams in the UK automotive and mobility sector.

Education

University of Hertfordshire, UK

MSc in Automotive Engineering | 2023 – 2024 | Distinction

- **Modules:** Automotive Dynamics (94%), CFD & Applications (82%), CAE & Applications (80%), Advanced Engines (78%).
- **MSc Project:** Simulation of Fuel Cell Hybrid Electric Vehicle – Modeled FCHEV in MATLAB/Simulink to evaluate performance, SoC behavior, and range optimization

SSN College of Engineering, India

B.E. in Mechanical Engineering | 2017 – 2021 | First Class Honours

Final year project: Investigation of Milling Characteristics of Metal Matrix Composite

I designed and fabricated a Silicon Carbide Metal Matrix Composite (MMC) using stir casting and performed milling operations to evaluate its machinability. Using a profilometer, I analyzed surface roughness and milling profiles while studying chip formation patterns to understand material behavior. My research focused on optimizing tool-material interaction and improving surface integrity, contributing to better machining performance for MMCs. This experience strengthened my skills in composite processing, machining analysis, and surface characterization.

Technical Skills

CAD/Design: CATIA V5, SolidWorks, AutoCAD

Simulation & Analysis: ANSYS (Static, Dynamic, Thermal), STAR CCM+, MATLAB/Simulink

Manufacturing & Testing: Sheet Metal Design, Fabrication, CNC & Lathe Machining, Mechanical Testing.

Programming: Python, C, C++

Documentation: BOMs, Technical Reports, Excel, PowerPoint

Professional Experience

Process Engineer | Shibi Timber Depot, India

Sep 2021 – Dec 2022

- Conducted mechanical testing and quality assurance of timber products
- Designed 2D/3D parts in AutoCAD, optimized for production

- Collaborated with clients and teams to ensure compliance with standards
- Prepared detailed technical documentation and improvement reports

Projects & Academic Work

- **CAE & Applications** – Aircraft Landing Gear Assembly: Performed structural and dynamic FEA; optimized design for load handling.
- **CFD & Applications** – F1 Front Wing Analysis: Simulated airflow using STAR CCM+, calculated drag/downforce.
- **Electric Vehicle Technology** – Battery Electric Vehicle Model: Modeled BEV in MATLAB/Simulink for urban cycles, optimized battery sizing.
- **Automotive Dynamics & Safety** – Bumper Design: Designed in CATIA, crash-tested in ANSYS; improved material efficiency.
- **Advanced Engines & Power Systems** – Fuel Research: Evaluated alternative fuels' calorific values and emission profiles.
- **Automotive Materials & Manufacturing** – BIW Design Research: Assessed aluminum monocoque design feasibility for medium-volume production.
- **Sustainable Business of Engineering** – Tata Motors Case Study: Analyzed SDG alignment, sustainability, and ethical practices.

Certifications & Training

1. **CADD Centre** – AutoCAD and CATIA (3D Design, BOMs, Sheet Metal, Surface); **Project:** Designed a fishing ship. **ANSYS:** Static, dynamic, thermal analysis with mesh refinement.
2. **Integral Coach Factory (ICF), Chennai** – In-plant training in coach manufacturing and NDT.
3. **Design & Fabrication** – Built a screw-type injection molding machine using lathe processes.
4. **Drone Pilot Training** – Garuda Aerospace (2021).
5. **Arduino Workshop** – Roboram Education (2021).

Other Notable Experience

1. UPSC Preparation (2021–2023):
 - Studied physical, human, and environmental geography, world resources, world history and Economics.
 - Developed strong analytical, research, and self-discipline skills.
2. Leadership:
 - Head of SSN Official Dance Team | Cultural Event Organizer – Led teams, managed events, and developed coordination skills.

Eligibility

Eligible to work in the UK under Graduate Route Visa (valid through [2027 Feb])