

AMITHESH SELVAKUMAR RAJESWARI

Gothenburg, Sweden

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Education

Chalmers University of Technology

August 2023 - September 2025

M.Sc Mobility Engineering (Specialization: Powertrains, FEM based design of Electric Motors)

Gothenburg, Sweden

Amrita Vishwa Vidyapeetham

July 2018 - July 2022

B.Tech Mechanical Engineering (Courses: Thermodynamics, Fatigue & fracture, FEM)

Coimbatore, India

Experience

Volvo Group Trucks Technology

June 2024 - August 2024

Summer Worker

Lundby, Gothenburg

- Automated data cleaning with Python, cutting report preparation time and building faster, more reliable Power BI dashboards.
- Engineered interactive Power BI dashboards powered by Python, enabling data-driven decision-making by visualizing key performance indicators.

Maruti Suzuki

January 2023 - July 2023

Trainee Technician

Coimbatore, India

- Performed diagnostic evaluation of engine components, analyzing engine performance parameters to ensure optimal operation and efficiency.
- Conducted gear train assessments, calculating gear ratios, backlash, and transmission efficiency to identify wear patterns and alignment deviations in drivetrain systems.
- Assisted in the inspection and analysis of vehicle systems to identify design or maintenance issues, contributing to process improvements.

Projects

Master Thesis : Thermal Characterization of Large Cylindrical Cells

Jan 2025 - September 2025

- Applied heat transfer and fluid dynamics principles to develop 3D thermal models for simulating heat generation and distribution.
- Executed thermal system validation by simulating multiple cooling strategies; optimized for performance and efficiency by proposing a double-sided cooling design.
- Designed and prototyped an optimized cooling tube assembly, improving thermal management efficiency and achieving a 15°C reduction in peak temperature.

Chalmers Solar Team - High Voltage Engineer

April 2024 - September 2025

- Led the mechanical design and packaging of the vehicle's high-voltage battery pack, ensuring compliance with system and vehicle-level requirements for safety, serviceability, and performance.
- Created and updated technical drawings and schematics for electrical harnesses, ensuring compatibility with mechanical subsystems and implemented design optimizations that reduced total harness mass by 4% while maintaining system reliability.
- Developed and validated Finite Element models to simulate structural loads, vibrations, and thermal stresses on the battery pack housing and mounting structures, ensuring integrity under real-world operating conditions.

Bachelor Thesis: Analysis of dimensional quality in FDM printed Nylon 6 parts.

Jan 2022 - June 2022

- Project Overview: Studied dimensional inaccuracies in FDM-printed Nylon 6 due to water absorption using CMM analysis and ANOVA, optimizing parameters to significantly improve dimensional quality.
- Individual contribution: Designed the test artifacts in AutoCAD and assisted in CMM and 3D printing processes.

Technical Skills

Programming Languages: MATLAB, SIMULINK, Python, C, Visual Studio Code.

CAD & CAE: CREO (Professional), STAR CCM+ (Intermediate), Siemens NX (Professional), Solidworks (Professional), COMSOL Multiphysics (Professional), GT-Suite (Professional), ANSYS (Professional), Maxwell (Intermediate).

Certifications: Hands-on Training with Car and Motorcycle Engines (Goodwin Motors), Electric and Hybrid Vehicles course (VERZEO).