SUJAY JAIRAMAN IYER

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WORK EXPERIENCE

Simulation Engineer – Working Student & Master Thesis
Fraunofer Institute of Innovative Mobility | Ingolstadt, Germany | Nov 2022 – Mar 2024
- Conducted thermo-mechanical FEM simulations to assess the deformation and operational strength of complex mechanical assemblies.
- Developed Reduced-Order Models (ROM) and Design of Experiments (DOE) frameworks to validate simulation accuracy and improve component behaviour predictions.
- Built machine learning pipelines for data analysis, regression modeling, and post-processing of FEM results.
  Tools: ANSYS Mechanical, OptiSLang, SolidWorks, Python

Functional Safety - Working Student
Modelwise GmbH | Munich, Germany | Nov 2020 - Oct 2021
- Performed FMEA and FMEDA assessments for automotive components, delivering risk reports that met ISO 26262 and IEC 61508 standards with minimal audit issues.
- Simulated electronic circuits using LTspice and Simulink, uncovering latent faults and improving system reliability in pre-production phases.
- Collaborated across departments to gather requirements & deliver the simulation results.
  Tools: Paitron, LTspice, Simulink, ISO 26262 Standards.

Purchasing Analyst
Volvo Trucks India | Bangalore, India | May 2019 - Oct 2019
- Streamlined procurement processes for global operations, analyzing technical drawings and optimizing supplier sourcing strategies across 70+ plants.
- Analyzed automotive powertrain components (gears, shafts, housings) for procurement, material selection, and cost optimization.
- Conducted supplier benchmarking and component segmentation based on manufacturing processes and material properties.
  Tools: SAP, Microsoft Excel, AutoCAD, 2D/3D CAD Drawings

Graduate Trainee – New Product Development
TVS Motor Company | Hosur, India | Jun 2017 – Apr 2019
- Led durability testing and FMEA activities on powertrain components, reducing warranty claims by 35% through root-cause analysis and redesign.
- Streamlined DFM practices across departments, reducing assembly rework by 22% and enhancing production efficiency.
  Tools: FMEA Tools, 7 QC Tools, Minitab, Microsoft Office, CATIA V5

EDUCATION

Master of Engineering in International Automotive Engineering
Ingolstadt University of Applied Sciences, Germany | Sep 2019 – Mar 2024
Focus: Vehicle Safety, Sensor Technology, Automotive Electronics, Functional Safety
GPA: 2.3

Bachelor of Engineering in Automobile Engineering
Saveetha School of Engineering, India | Aug 2013 - May 2017
Focus: Structural Analysis, Fatigue & Fracture Mechanics, Vehicle Product Development
GPA: 1.81 (Graduated among the **top 1% of the class**)

PUBLICATIONS

Solar car made of CFRP
Journal of Chemical and Pharmaceutical Sciences | ISSN: 0974-2115

A research review on magnetic levitation trains a research review on magnetic levitation trains
International Journal of Applied Engineering Research · Oct 1, 2015 | ISSN 0973-4562 Vol. 10 No.33

TECHNICAL SKILLS

Simulation & CAD: Ansys (Fluent, Workbench, Optislang), SolidWorks, CATIA V5, Creo

Testing tools: CANoe, V-Teststudio, Hardware in Loop Testing Automotive, ISO 26262, AUTOSAR

Frameworks: ADAS, MATLAB/Simulink, Python, C++, SAP, JIRA, C++, PowerBI, MS Office

Languages: English (C2), German (B2)