Shreyas Ravi

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24 September, 1996

Innovative mechanical engineer with expertise in automotive systems, vehicle dynamics, structural analysis and mechanical design, specializing in systems design, seeking to drive technological advancements and collaborative engineering solutions. Close to 5 years of experience in R&D, design and analysis in automotive and mechanical industry with a demonstrated history of team working and leading.

SKILLS

CAD: Catia V5, Solidworks, Creo, Siemens NX, Autodesk

CFD: Ansys Fluent, Star CCM+

Other: LS-dyna, Matlab/Simulink, Adams, EcoCal, EM-tune, C++, Avl vsm; MoTec i2, Ni Multisim, python

Technical Skills: FEM, CAE, Numerical Methods, Structural Mechanics, Automotive Systems, NVH, Model Based Systems Engineering, Agile/Scrum

Professional Skills: Precise & analytical, Goal oriented, Critical thinking, Team work & communication

PROJECTS

- Energy storage-inverter-motor system design for FS vehicle
- CFD analysis of wing & nose of F1 car
- IED Blast simulation on V-hull tank

WORK EXPERIENCE

Doctoral Candidate – Automotive Systems Design
Eindhoven University of Technology, Netherlands
10/2022 - Present

- The program emphasizes technical and professional competencies for designing efficient high-tech automotive systems. Projects at ASML and DAF was undertaken as described in detail below.
- Developed Software for extrinsic calibration of ImRadar & camera in matlab achieving less than 15% error.

Projects undertaken

Systems Design Engineer – Tin Mechanics
ASML, Netherlands
10/2023 – 03/2024

- Conceived and executed virtual simulation models to optimize the performance of a high pressure-high temperature thermodynamic system, resulting in a 15% increase in efficiency and a 20% reduction in energy consumption.

Design & Development Engineer
DAF Trucks, Netherlands
05/2023 – 10/2023

- Conceptualized and developed a Range Estimation tool tailored specifically for electric trucks using insights of diesel truck data.
- Incorporated road gradient information from open-source platforms to enhance range estimation accuracy by an estimated 10-15%.
- Devised a methodology for precise range estimation of up to 5% without relying on simulation techniques.

Sr. Mechanical Engineer
Coexlion, Bangalore
04/2022 – 10/2022

- Created 3D CAD and 2D drawings of structural braces for the rear suspension mounts of the RE motorcycle to mitigate modal harmonic excitations

- Exhaust manifold Adaptive Quarter Wave Tube design
- 2020 lmp1 car qualifying and race simulation analysis

ADDITIONAL CERTIFICATIONS

- Model based Automotive Systems Engineering (Chalmers-edX)
- Self-Driving Cars Specialisation (Coursera)
- Business Model Innovation in an Exponential World (TU/e)
- Mechatronics Systems Design (TU/e)

PUBLICATIONS

- "MPC Controller for Autonomous Formula Student Vehicle", SAE Technical Paper 2020-01-0089, 2020, doi: 10.4271/2020- 01-0089
- "Design optimisation of Bicycle Wheel Hub Assembly for Automotive Applications", SAE Technical Paper 2022-01-0262, 2022, doi: 10.42771/2022-01-0262

HOBBIES & INTERESTS

- Cricket and Badminton
- 3D Printing
- Adventure sports

LANGUAGES

- **English:** Native/Bi-lingual
- **Dutch:** Beginner (learning)
- **German:** Beginner (learning)
- **Tamil:** Native/Bi-lingual
- **Hindi:** Native/Bi-lingual

- Conducted CAE-FEA analyses on chassis for OEM clients, notably Royal Enfield.
- Utilized 1D modelling and mathematical simulations to analyse kinematic parameter of suspension and steering sub-systems.

Research & Development Mechanical Engineer (Entrepreneur)
InGo Electric, Bangalore
04/2020 – 03/2022

- **Led a technical design team** of four; Developed kinematic models in Solidworks for mapping out suspension and steering articulation wheel envelopes.
- Created a mathematical 1D Matlab/Simulink model for the motor-CVT setup to develop innovative powertrain system.
- Collaborated with the CAE team to formulate load cases for static and fatigue loading at component and full vehicle levels.
- Handled end-to-end 3D CAD, 2D drawing release, DFMA and supplier communications entailed in development of the vehicle from proto-B stage to mass production phase.
- Secured victory in Altair Start-up Challenge, winning a sum of INR 500K award.

EDUCATION

M.Sc. Motorsport Engineering
Oxford Brookes University, Oxford
09/2018 – 09/2019

- Conducted research on Driverless vehicle analysis and compared control theories for Formula Student Autonomous Vehicle as master's dissertation.

B. Tech Automobile Engineering
SRM University, Chennai
07/2014 – 05/2018

- Designed, analysed and fabricated proof of concept of variable length intake manifold as undergraduate project.

EXTRACURRICULAR ACTIVITIES

R&D Engineer – Team Lead
Oxford Brookes Racing, Oxford

- Led a team as Powertrain EV Lead, managing design, fabrication, & documentation, spearheaded exhaust manifold noise reduction by 3-4 dB while enhancing performance, and developed a lateral controller for autonomous vehicles using Simulink, while defining hardware requirements as a Control Systems Engineer.

Team Manager
Infieon Supermileage, Chennai

- Spearheaded a team of 26 individuals, achieving international acclaim for technical innovation at Shell Eco-Marathon Asia '18.
- Pioneered the implementation of diverse sub-teams, strategically restructuring operations to enhance productivity despite resource constraints.