AKSHAY JAGDALE

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EDUCATION

Masters in Mechanical Engineering

University of Cincinnati, *College of Engineering & Applied Science, Ohio*   May 2019

Bachelors in Mechanical Engineering

University of Pune, *AISSMS College of Engineering, India*   May 2016

PROFESSIONAL EXPERIENCE

Simulation CAE Engineer, Marelli Automotive Lighting, Auburn Hills, Michigan   Nov 2019 - Present

- Perform CFD/Thermal and Structural analysis on commercial/electric vehicle (EV) headlamps and tail lamps to optimize thermal and geometrical design and check material feasibility to meet long term performance goals under elevated temperatures
- Conduct module-level steady-state and transient air-flow/thermal simulations inside the lamp to check for failure under thermal load and possible risk of fogging
- Perform Static and dynamic Finite element analysis (FEA) of the vehicle lighting system to determine robustness
- Validation and Correlation; support validation engineers with physical testing of headlamps and tail lamps to determine failure under thermal load and correlate test results with simulation results
- Check for photometry targets by calculating light output from LEDs by performing comprehensive component level PCB and heatsink thermal analysis and fine-tuning current inputs for each LED in the lighting system
- Communicate with clients/customers and suppliers to discuss performance targets and design feasibility; create and follow actions identified in D-FMEA have optimal design solution
- Work along with cross functional/multidisciplinary electrical, design, validation, and optics/optical team of engineers for the whole design lifecycle of the product from concept phase to manufacturing phase
- Design optimization by flaw/problem identification and suggesting geometrical, electrical, and material changes as per Design for Manufacturing (DFM) and Design for Assembly (DFA); prepare mock-ups for new product development
- Post process and create CAE reports; present reports or proof-of-concept (POC) of alternate solutions to a problem to other team of engineers, managers or clients to have a low cost quality product

CAE Intern, ELENO Energy LLP, Pune, India   Oct 2016 - Mar 2017

- Worked independently and in groups on analysis projects having static and dynamic conditions. Performed linear and nonlinear finite element analysis/simulations using LS DYNA explicit and implicit solver
- Performed dynamic/crash analysis of vehicle seating systems and wheels to check performance against regulations (ECE)
- Pre-processing; meshing of automotive parts involving plastic and sheet metal components. Quality check for shell and solid element mesh
- Model generation; application of boundary conditions, connection, contacts, error debugging and deck preparation according to the regulations and customer requirements
- Post-processing; obtaining results, observing model behavior and CAE report preparation

Project Intern, Armament Research and Development Establishment, Pune, India   Oct 2015 - May 2016

- Prepared 3D CAD concept of a missile launcher tube and executed FE static and modal analysis on the tube made of composite material to have a light weight robust product

SKILLS

- Hypermesh, FloEFD, LS-Dyna, CATIA, Abaqus, SimSolid, Optistruct, HyperView, LS-PrePost, MATLAB, ANSYS CFX, SpaceClaim, SolidWorks, CES EduPack, MS Office (Excel, Word, PowerPoint)
- FEA, CFD, Thermal Analysis, Structural analysis, Crash, 2D 3D CAD, Electro Mechanical, Opto-Mechanical, GD&T, Supply chain management, Lean Six Sigma, Quality Control, Process Improvement, Lean Manufacturing, DFM/DFMA
- Physical testing, correlations, Vehicle Restoration, racing, analytical models, trade off studies, feasibility checks
- Received "Best Desk Assistant" award for customer service and interpersonal skills (Part-time job)

CO-CURRICULARS

Member of Society of Automotive engineers (SAE) – BAJA   Sep 2014 – Mar 2015

- Designed steering system for the All-Terrain Vehicle(ATV) and fabricated custom ATV parts using fabrication and rapid prototyping methods such as welding, laser cutting, CNC Machining, etc.
- Executed test run of the vehicle to examine its performance and made suggestion for alterations in suspension air pressure, tire pressure, steering and brakes to make the vehicle race worthy