ARUNKUMAR BAGAVATHIRAJ

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Profile Summary

- CAE Analysis professional with 8+ years of experience in automotive domain.
- Working as an Associate Team Lead at Caresoft Global Pvt Ltd, Coimbatore.
- Experienced in Simulation of seating system in automotive sub-systems using ABAQUS and LS DYNA based on FMVSS, ECE and NCAP Regulations for crash, safety & durability.
- Experienced in CAE modeling, connection, Contact, integration of automotive systems for structural, Crash & Durability.
- Good Exposure to Full vehicle model build and check runs.
- Experience working with cross-functional teams to achieve corporate objectives.

CAE Software

- Pre Processing - Hypermesh
- Processing - LS-Dyna, Abaqus
- Post Processing - Hyperview

Education

- B.E. - Aero, 7.12 CGPA, Hindusthan college of Engg. And Tech., Coimbatore. (2011-2015).
- HSC - 88%, SUM Hr.Sec.School, Royappanpatty, Theni. (2009-2011).
- SSLC - 87%, Government High School, U.Ammapatty, Theni. (2008-2009).

Work Experience

Employer_01: Caresoft Global Pvt. Ltd, Coimbatore. (Jan 2024 – Present)

- Currently working as an Associate Team Lead/ CAE Analyst.
- Involved in leading multiple projects like Structural simulations of Combine, Crop, and Feeder Machines.

Responsibilities

- Directly interacting with Client for successful project execution.
- Project scope includes meshing, Connections, contact, deck setup, solving, report preparation, finding reasons and proposing counter measures.
- Project estimation, Team management and Peer reviewer.
- Guiding team members to execute projects properly.
- Reviewing of models in Regular, Intermediate and Final stages of project
- Project Tracking from Initial Setup to Final Delivery.

Projects Handled

- Combine, Crop, and Feeder Machines.

Employer_02: Capgemini Technology services India Ltd, Coimbatore. (Feb 2022 – Dec 2023)

- Worked as a CAE Analyst
- Involved in Automotive seating system, Head impact, Door trim stiffness simulations.

Responsibilities

- Understand customer basic requirements and expectations.
- Perform FE Modeling and analysis using Hypermesh, Abaqus and Ls Dyna.
- Implement engineering changes as required for improved designs.

Projects Involved

- Seat Belt anchorage test and Luggage retention test performed to improve the structure of the seat and mounting structure with floor as per FMVSS210 and ECE14 standards.
- Performed Head impact analysis on LCD Screen and implemented the desired changes to improve the Instrument panel.
- Door trims stiffness Analysis (Belt line, Pull cup, Map pocket, Armrest, etc.) were carried out to predict the failing regions and design modifications as per the standard.
- Supported the simulation of side pole crash to improve the EV battery and its support.

Employer_03: DSI Technologies Pvt. Ltd, Trivandrum. (Jan 2019 – Feb 2022)

- Worked as a CAE Engineer
- Involved in FE Analysis of Automotive seat, BIW, Closures, Interior and exterior trims.
- Deputed as a Senior Modeler at FORD Global Business Center, Chennai for a period of NOV 2020 to NOV 2021.

Responsibilities

- Direct discussion with the onsite coordinator to understand the client's requirement.
- Understanding Project scope, Estimation, Team handling, on time Delivery.
- FE Modeling, Initial data check & Eigen analysis for validating connections & BC conditions.
- Analysis of various seats in both LS-Dyna and Abaqus as per FMVSS and ECE standards.

Projects Involved

01. Safety, Crash & Durability testing of seats.

- FE Modeling (2D & 3D) of Seat Assembly for Safety, Crash & Durability in ABAQUS profile.
- Full Seat Modeling (Structures, Cushion, Trims) and Connections (Weld , Bolt, connectors)
- Preparation of case files for different types of Analysis includes instancing of various parts in assembly for various seat positions, creation of sets, establishing connections, boundary settings, contacts, load curve and output request,.
- Positioning of Jigs & dummies for cases like belt anchorage, head impact, waist, etc.
- Conduct analysis run using Abaqus and LS Dyna.
- Report making, Part list Making & Graph plotting using hypergraph.
- Validating the result files.

02. CAE Model integration for front & pedestrian protection analysis.

- Checking of CAD data as per BOM.
- Mid plane FE modelling as per quality criteria, property and material assignment.
- Spot, arc, bolt, adhesives and joints representation.
- Contact definition and interference checks.
- Integration of BIW with closures, Engine component & Transmission, Bumper, Grille, Fender and fuel tank sub-assemblies.
- Delivery of solver ready LS-Dyna include deck file after check run.

03. CAE modelling Various automotive systems/Assemblies

- FE Modelling of Closures (Front and Rear door including door trims and regulator, Tailgate and Hood assembly.
- CAE modelling of Exterior trims (Front and Rear exteriors).
- FE modelling of Interior trims (IP, Door and seat trims).
- Spot welds, bolts, adhesives and joint representations.
- Contact definitions and interference checks.
- Integrating with Body in white.

Employer_04: MACH Engineers, Coimbatore. (Nov 2015 – Dec 2018)

- Worked as a FEA Engineer

Responsibilities

- CAE modelling of automotive, textile and agricultural machinery assemblies.

Projects Involved

- FE Modelling of Door assembly.
- CAE modelling of thermo-structural analysis of heat exchanger.
- CAE modelling of agricultural shredder machine.
- Normal mode analysis to check integrity.
- 2D and 3D modelling with strict quality criteria.