



RAVICHANDRAN H

CAE Senior Engineer

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Nationality: Indian

PROFESSIONAL SUMMARY

Having 5.5 years of work experience in the CAE Automotive domain, Strong experience in Finite Element Modeling and Computer Simulation. 1 year of work experience as a Tool and Die making in Prabha Industries. Ability and adaptability to work in a competent environment.

KEY SKILLS

ANSA, HYPERMESH, LS DYNA, PRO-E and CATIA (Basic knowledge of CAD tools), PAPP, PYTHON, SQL, MACHINE LEARNING and DATA SCIENCE.

CAREER SUMMARY

Total year of experience – 6 years:

Total year of Experience in CAE – 5 years

- Working as a Senior Project Engineer at Wipro Limited, from August 2019 to till date.
- In-plant trainee as a tool and die maker in Prabha Industries, Bangalore from the period May 2012 to Jun 2013.

EXPERIENCE

Senior Project Engineer @ Wipro Limited

Aug/19 – Present

Client: Suzuki & Honda

Key Skills: Ansa, Hypermesh and Ls-Dyna

Description: FE Modeling of Automotive components for Strength, NVH & Crash Modeling

- Main responsibilities include mesh, assembly of various sub-systems for full vehicle Crash safety, Strength & Durability & NVH by using ANSA, HYPERMESH, and delivering error-free models within task time.
- FE modeling of entire BIW structure, closures, and other sub-systems using ANSA and HYPERMESH.
- Strong experience in Shell meshing and plastic parts including trims.
- Experience in the creation of Welds, Spots, Hemming, and Bolts for BIW structures using ANSA and HYPERMESH.
- Deck preparation and have good exposure towards understanding the analysis input files – Ls-dyna cards for linear static analysis, inertia relief analysis, and Modal analysis.
- Experience in mesh, assembling various subsystems for vehicle crashes by using Dyna
- Modelling of a Sub-assembly system with all Joints & connections done as per the guidelines and material properties assigned as per the BOM.
- Contacts, Boundary conditions, control cards, and Mass & CG updated.

Projects:

1. Barrier Impact analysis of Automobile bumper & Facia (NCAP):

- Developing and preparing of the Lsdyna model for crash analysis.
- Optimizing simulation efficiency by incorporating mass scaling techniques to shorten debugging time.
- The structural integrity of the vehicle was found out after the analysis.

2. Performing dynamic analysis for Basic models:

- Worked on setting up standard analysis procedures for Basic models in Hyper Mesh and Ls dyna.
- Worked on complete FE modelling and connections.
- Project involves 3D FE modelling and Dynamic Analysis for Basic Models.
- Report generation using Ls dyna post processor.

3. Crash analysis of Automobile bumper & Facia (FMVSS criteria):

- In a frontal collision, the bumper should absorb maximum impact energy to minimize force transfer to the vehicle's body. Bulkheads are added to the bumper to stiffen it and prevent buckling.
- Deflections (Bumper Back-Stroke) were reduced to the given requirements.

4. Static Simulation for Brackets and crash box parts:

- Individually Handled the Static simulation for Brackets and Crash box parts.

- Complete static simulation for Brackets and Crash box parts
- Report generation

5. FE Modelling and development of Crash, NVH, And Strength subsystems for Front and Rear Floor assembly:

- The scope of the project was to create quad-dominated shell mesh for Floors like Front and Rear Floors.
 - Parts are modeled based on the Client Requirements
 - Check quality criteria, assigning thickness and material properties, removing penetrations
- Domains: Crash, NVH, Strength

6. FE modeling of Closures:

- The scope of the project was to create Quad dominated shell mesh for Closures like Hood, Front, Rear, and Back doors.
 - Parts are modeled based on the Client Requirements
 - Check quality criteria, assigning thickness and material properties, removing penetrations
- Domains: Crash, NVH, Strength

7. FE Modeling for the Trims:

- The scope of the project was to create Quad dominant shell mesh for the Instrument panel, Front and Rear bumper, Cowl, Observer,
 - Grill and Glove box.
 - Elements were created based on the client's requirements
 - Check quality criteria, assigning thickness and, removing penetrations
- Domains: Crash, NVH

8. Normal Mode Analysis of Trim Body, BIP, CLOSURES and - NVH and Durability Analysis.

- Description: The reasons to perform the normal mode analysis of Trimmed body to check the model quality by viewing the modal animation.
- Software: ANSA, Hyper mesh, hyper view
- Modal analysis is done to check the proper connections and frequencies.
- To ensure the major body modes and the frequency of major sub system modes to perform full vehicle analysis.
- Need to analyze and evaluate the natural frequencies and preparation of quality, deviation and all necessary reports to ensure the full vehicle Sign off process.

In-plant Trainee @ Prabha Industries, Bangalore

May/12 – Jun/13

- Trained & worked as a Crafted precision tool using CAD/CAM software, reducing production time by 20% through efficient design and manufacturing processes.
- Collaborated with engineering teams to develop innovative tooling solutions, resulting in a 15% improvement in manufacturing efficiency and product quality.

EDUCATION

- **MTech (Mechanical, integrated under the Wipro Wista Program)**, Vellore Institute of Technology, 2019
- **BE (Mechanical, Integrated under the Wipro Wista Program)**, Vellore Institute of Technology, 2017
- **Diploma Tool and Die Making**, GT & TC, Hospet, 2012
- **Senior Secondary**, SSD High School, Metri, 2008

PERSONAL DETAILS

- Name: RAVICHNADRAN H
- Mother Name: Honnuramma
- Date of Birth: 05-06-1992
- Marital status: Married
- Nationality: Indian
- Address: Vjpp+545, Patel layout Rd, Patel layout, Vishwa Priya Nagar, Begur, Bangalore-560068, Karnataka
- Languages Known: English, Hindi, Kannada and Telugu

Declaration:

I hereby declare that the above-furnished information is correct and true to the best of my knowledge & belief.

Date:

Place: Bangalore