SOURABH D
(SENIOR CAE ENGINEER)

CAREER OBJECTIVES

To pursue a challenging career and be a part of progressive organization that gives a scope to enhance my knowledge and utilizing my skills towards the growth of the organization.

ACADEMIC PROFILE

Course	College /University		Year
B.E.(Automobile Engineering)	Oriental Institute of Science & Technology /R.G.P.V. (Bhopal)	R.P.G.V	2014-2018
Senior Secondary School Examination (Class 12th)	Govt higher secondary school venkatward, katni (M.P)	M.P board	2014
Secondary School Examination (Class 10th)	Kendriya Vidyalaya ordnance factory katni (M.P)	C.B.S.E	2011

KEY SKILLS

- **Full vehicle body of passenger vehicle, Bus and truck FEA modeling With Connection and Simulation. Shell, plastic, BIW and Solid meshing, Analysis of vehicle Normal mode analysis , Static and Dynamic analysis.**

SOFTWARE SKILLS

- **FEA Solver - LS-DYNA, RADIOSS, Optistruct, Nastran,**
- **Modeling - Ansa, Hypermesh**
- **Post process - HyperView, Ls-Prepost, Meta post,animator,**
- **Other software - Solidworks, Motion view and Adams Car(basics), AutoCAD(basics).**

PROJECT UNDERTAKEN

OEMs Project Done – Maruti Suzuki, Mercedes, PUCVG,VECV, JBM, TATA Marco polo, Ashok Leyland, Olectra Greenteck,

- **Different HCV Bus structure and HGV tipper body and Cargo truck, RUPD, SUPD, FUPD and Tipper Cabin FEA modeling**
- **3D Meshing –Exhaust Manifold (Layer meshing) , Engine Cover, Gear, axel, seat backrest and cushion foam**

Analysis Assignments:

- **Dynamic Analysis: Luggage retention test, Frontal Crash Rear crash of tipper truck cabin, Three-wheeler fromtal impact and Bus Rollover and seat rear frontal impact.**
- **Quasi Static Analysis: Seat-Belt Anchorage, Cabin Roof Crush, RUPD, FUPD and SUPD Analysis for commercial vehicles.**
- **Static Analysis: Full Bus Vehicle and Component level analysis for different Load and Boundary conditions.**
- **Normal mode analysis: Full Vehicle and Component level.**

PROFESSIONAL EXPERIENCE

CURRENTLY EXPERIENCE

Organization Name
ESPL Pune (Equilibrium Solution Private Limited)

Designation : Senior CAE Engineer
Location : Pune Maharashtra
Date of joining : 15th May 2023 – Till dates

Work description as follow:

Seat belt anchorage test of N3 Commercial Seat as per ECE R14 and Luggage retention test as per ECE R17

- Seat deck preparation using includes which contains different required contact between includes.
- Appropriate boundary and load condition
- Final checks of model before run submission and debug
- Model simulation check to insure model working is appropriate and no part or node flying
- Report making with conclusion by highlighting area of failure or improvement
- Seat model meshing connection and integration of 2sr and 1sr variant of seat model using Ansa tool.
- Meshing of headrest, back frame, back support plastic, back cushion, Arm rest, SKTV, Cushion leg supporter, Head rest and Cushion foam
- Foam meshing with different foam layer and A surface B surface meshing with proper mesh flow and nodal connectivity
- plastic part meshing in different includes and with maintaining mesh flow.
- All checks performing related to intersection, penetration, interior intersection, connection dependency, duplicates also maintaining all shell and solid element quality.
- Includes preparation with material, contact, set and connections.

Modeling Task:

- **Meshing:** 2D Shell and 3D Tetra + Simple Hexa layer meshing done
- **Connections**: 1D and spot weld connections

- Exposure to Full Vehicle building activities for Specific Guidelines. Task involves, assigning and coordination with team for

1. FE Modeling the given assembly.
2. Meshing flow and element quality check.
3. Each sub-assemblies are to be checked for connectivity and adequate connections with other sub-assemblies.
4. Proper thickness, material, and properties assignment.
5. Intersections & penetrations are removal within & across the subsystems.
6. Assigning Contact and entities.
7. Boundary, load conditions assigning and body block setup.
8. Calculation as per the analysis requirement.
9. Result check after completion of simulation run and technical report preparation.
10. Customers coordination.

Below parts are meshed regular basis:

- Plastic parts like A, B, C, Pillars, IP and console assembly, Front fascia.
- BIW, Bonnet, Closures assembly.
- Tetra meshing for casting parts.

• Hex meshing for simple geometry.

Vehicle Integration:

• Part management, Include file structure management.

• Different types of virtual connections representations for LS Dyna solver like Spot weld,

• Adhesive, Weld, rigid, Blot connections.

• Joints and defining suitable contact definition.

PREVIOUS EXPERIENCE

Organization Name
IICAE indore

Designation : CAE Engineer
Location : Indore(M.P)
Date of joining : 15th Sep 2018 – May 2023

Work description as follow:

- Working for Finite Element Analysis for pre and post processing in hypermesh tool and basics in CAD Modeling in Solidworks.
- Working in pre and post processing for Ls-Dyna and RADIOSS able to prepare full modelling as per crash analysis requirement and boundary condition till analysis run.
- Worked for Bus Rollover, Frontal Cabin Crash, Cabin Roof crash and RUPD, FUPD and SUPD Quasistatic analysis.
- Working for preparing post process results of analysis from HyperView and Ls-Prepost.
- Preparation of full model from the scratch mid surfacing meshing to connection between components and boundary condition as per analysis run.
- Post processing For Optistruct and Nastran to find out stress and factor of safety as per domain requirement.
- Preparation of model for model analysis to find out proper connection in different modes of frequency.
- Improving of elements quality, penetration, intersection and good meshing quality.
- 2D and 3D meshing and Assembly of components of different vehicle models.
- Preparation of FEA model from 2D drawing.
- Working experience in EV and non EV vehicles such as bus, Cargo truck, Tipper Truck, three wheel and two wheel vehicle models for meshing in different domain projects.
- Working in solidworks software for CAD design.
- Provide training to interns and new joining.
- Working with team with proper team work.
- Work distribution with team and lead them till work closer.
- Other work as per firm requirements and instructions.

INTERNSHIP

- Internship done with Abhikaran Honda JK Road Bhopal.
- Exposure to Internal and external parts of vehicle.
- Exposure to the correct arrangements of all the parts of vehicle.
- Exposure to the current technology used in latest models.

PROJECT UNDERTAKEN

- **Tittle** : Electricity generation by vehicular movement on a speed breaker (through rack and pinion gear system).

- **Description**: Through rack and pinion gear system this model shows generation of energy with systematic arrangement of rack and pinion under speed breaker and when vehicle cross from speed breaker this rack and pinion arrangement start working.
- **Working**: As vehicles overcome the speed breaker the contraption of rack and pinion moves up & down and rotates a flywheel which is working on the crank and slider mechanism. The device is a viable method to create power as the number of vehicles overcoming the speed breakers are large in numbers. The device can be successfully put where there is a high frequency of vehicular movement. The slider mechanism gathers the power from vehicle overcoming the speed breaker and translates it to a rotating device which is connected to a DC power generator.

COMPUTER PROFICIENCY

- **Microsoft office:** Word pad, MS Excel, Power point etc.

EXTRA CURRICULAR ACTIVITIES

- Participated in event assemble and dissemble automobile parts competition in tech fest in College.
- Active participation in seminar and culture activity both at school and college level

PERSONAL STRENGTH

- Problem solving and Decision making
- Self confidence
- Positive attitude
- Self-motivate

SKILLS

- Good interpersonal skills
- Excellent creativity
- Ability to work confidently

DECLARATION

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

Date : Sourabh D

Place: