

SUMMARY

Driven professional with 3 years of experience, committed to contributing effectively toward organizational goals while continuously expanding my knowledge. I seek a challenging environment that offers growth, fulfillment, and high job satisfaction.

EXPERIENCE

Ford Motors pvt.ltd under the payroll of Sacha Engineering pvt.ltd, Chennai

(Aug 2022 – Mar 2025)

- Managed the engineer's team and assigned tasks to them. Reviewed the models of the engineers and created a presentation to improve work efficiency and time management.
- Generating mesh on different Plastic (Trims)/sheet metal (BIW) Assemblies under the crash & safety guidance and clear the intersections and penetrations in the models.
- Worked on different plastic assemblies and sub-assemblies independently.
- Carry out FE Model building for full Vehicle for different analysis requirements.

Freelancing

(Mar 2022 – Jun 2022)

- **Meshing on different components such as (Hood, IP Trims etc.)**
- **Tool Used: ANSA**

Gain well commosales pvt.ltd, Jharkhand

(June 2019 – July 2019)

- I can manage and handle the process of maintaining the off-road machines HEMM (HEAVY EARTH MOVING MACHINE).
- Applied technical troubleshooting ability to create quality in Automobile.
- Assembled and disassembled complex mechanical systems to make repairs or augmentations and troubleshoot malfunctions

EDUCATIONAL QUALIFICATION

- Diploma in Product Design from CADD Centre (July 2021 – Dec 2021)
- BE – Mechanical (Jun 2016 – Oct 2020)
- 12th (SENIOR SECONDARY) (Jun 2015 – Oct 2016)
- 10th (SECONDARY) (May 2013 – Jun 2014)

PROJECTS

FE Modeling and Integration of BIW Assembly

- Components included in BIW are Front Side Members, Dash Panel, Side Sill, A Pillar, Roof, B Pillar, Floor and C Pillar.
- Preprocessing of all those parts with shell mesh based on the quality standards to be followed in crash & safety simulation.
- Clearing for Integration and Penetrations.
- **Tool Used : ANSA, Hypermesh**

FE Modelling and Integration of Interior and Exterior Trim Assemblies

- Components included in Interior and Exterior (Plastics) are HVAC, Front Bumper, Rear Bumper, IP panel, Side footstep, Door Trims, Front Grille and Lamps.
- Preprocessing of parts based on the quality standards to be followed in crash & Safety simulation.
- Assigning thickness with the variation of 0.05mm.
- Clearing for Integration and Penetrations.
- **Tools Used: ANSA, Hypermesh**

FE Modelling of solid assemblies (Tetra \ Hexa Meshing\Skin\Outer mesh)

- Components are Rear View Mirror, Intake Manifold, Transmission, Motor and Engine.
- Preprocessing of parts based on the quality standards to be followed in crash & safety simulation.
- **Tools Used: ANSA**

Modal analysis for calculating displacement in BIW part.

- Preprocessing of BIW sheet metal parts based on the quality standards to be followed in safety simulation.
- Ingratiation of FE models using appropriate connections.
- After Integration all penetrations and intersection were removed.
- Load and Boundary conditions are defined and stresses are noted.
- **Tools Used: ANSA, Hypermesh**

Connections knows.

- Spot weld, Seam weld, bolted connections, solid weld, Adhesive

Crash Box Analysis (LS-DYNA)

- Crash Box is tube shaped object, which is located near bumper and chassis.
- Conducted detailed crash box analysis using LS-Dyna, focusing on energy absorption and structural integrity during impact scenarios.
- Developed high-fidelity finite element models with optimized meshing and material definitions, including piecewise linear plasticity (MAT_024)
- Applied realistic boundary conditions, contact algorithms, and initial velocity loads to simulate crash events.
- Evaluated performance through force-displacement curves, reaction forces, and energy dissipation metrics, contribution to design optimization for enhanced crashworthiness and safety compliance.

High speed impact Analysis (LS-DYNA)

- Performed high - speed impact simulations using ls-dyna to evaluate structural response under extreme loading conditions.
- Developed detailed finite element models incorporating advanced material behavior and applied initial velocity conditions to simulated crash scenarios.
- Utilized explicit dynamic solvers to analyze deformation, stress, propagation, and energy absorption in metallic and composite structures.
- Delivered insights into failure mechanisms and optimized design configurations for enhanced impact resistance and safety performance.

Tensile Strength Test (LS-DYNA)

- Executed tensile strength simulation using ls-dyna to evaluate material behavior under uniaxial loading conditions.
- Developed precise finite element models of standard test specimens.
- Applying boundary constraints and nodal loads to replicate experimental tensile tests.
- Integrated advanced material models to capture strain-rate sensitivity and plastic deformation, converting engineering stress-strain data into true values for accurate input.

- Analyzed stress distribution, necking, and failure patterns to validate material performance and support design decisions for structural applications.

TECHNICAL SKILLS

- **FEA Pre – Processor** : ANSA, Hypermesh
- **Solver** : ansys workbench, optistruct, LS-Dyna(Learning)
- **Design** : Solidworks, Autocad, Catia
- **Others** : MS Word | Excel | Power Point

COURSES AND CERTIFICATION

- Hyper Mesh, Udemy 2022
- SolidWorks Training , Cad Centre 2022

Personal details

- Father's Name : Mr. Vinod Kumar
- Gender : Male
- Date of Birth : 12-02-1999.
- Address : Hazaribagh Jharkhand
- Languages Know : Hindi, English.
- Nationality : Indian.

Declaration

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

Date -

Signature -