Wissen Baum Engineering Solutions

Profile for Onsite Support

Date: 17 November 2025

Wissen Baum Engineering Solutions

Germany | USA | India

Code: 8092
Domain: Crash

Resource CODE: WB/CAE/8092/Mit J.

Educational Qualification:

- Bachelor of Engineering - Mechanical stream (4 years Program)

Total Experience:

- 4+ Years

Software skills:

- **Pre-process:** Hypermesh
- **Solver:** LSDyna
- **Post-process:** Hyperview, Hypergraph
- **Others:** MS tools

Key Highlights:

- Expert in surface and midplane meshing, batch meshing, solid tetra meshing, and good working knowledge of Hex meshing
- Competent in setting up the load cases for simulations
- Knowledge of Automotive Safety norms and Regulations for automotive interiors such as ECE, FMVSS. Expertise in working with various OEMs with various standards.
- Having good knowledge of Engineering Mechanics, strength of material and Machine design.
- Exceptionally well organized with track records that demonstrate self-motivation, creativity and initiative to achieve both personal and corporate goals.
- Good English communication skills.

Job Profile:

- The mesh generation with given quality criteria followed by a quality assurance process using checklists for shell and solid meshing, variable thickness assignments, intersection penetration checks, and removal.
- The FE model buildup phase using Hypermesh- which includes, material definitions (Mat Elastic, Mat Elastic-Plastic, Mat Null, Mat Rigid), property assignment (ELFORM, NIP, SHRF), contact definitions (Snaps, Welds, Screws, Bolting and etc), Time history output blocks for nodes and elements, defining database cross-section(for measuring cross section forces), control cards, loading, and boundary conditions for automotive interiors such as Door trims, Center console, Instrument panel, etc.

- The debug simulation study using Hyperview for Intersection study, contact study and Connection scheme, and using Hypergraph for energy plots, Displacement or Velocity plots, mass scaling, etc.
- Post-processing (result interpretation) using Hypergraph with key outputs such as energy balance, mass scaling, etc and Hyperview for the deflections, stresses and plastic strain
- Executive reports preparation, with outputs such as deformation, stresses and plastic strain, regulation-specific observations
- Communicating with the team manager for effort evaluation, work-in-progress status and submission of final reports

Project – 1

Client Name: Leading European OEM
Project Name: Luggage Retention Test for Front Seat as per ECE R17 Compliance
Solver: LSDyna
Software: Hypermesh, Hyperview and Hypergraph
Role:

- Developed the finite element model (FEM) for the front seat luggage retention test, ensuring full compliance with ECE R17 regulations. This involved creating an accurate seat model, including all necessary components and material properties.
- Conducted meshing of seat components, as per quality criteria with thickness assignments. Performed quality checks, including intersection and penetration checks to ensure the integrity of the model.
- Applied material properties to seat components and set up connections like bolt, weld, joints, springs and ect. Assigned contacts between the seat and the luggage block for accurate simulation results. Creating time history evaluations.
- Applied acceleration loads, simulating the luggage retention using an unrestrained 20kg luggage block as per test specifications. Ensured that all conditions followed ECE R17 requirements for luggage retention during crash events.
- Interpreted simulation results using Hyperview, analyzing key outputs such as deflections, stresses, and plastic strain to evaluate seat performance under the test conditions.
- Compiled and delivered detailed executive reports, including animations of test scenarios, and stress/strain plots.
- Regularly communicated with the team manager to provide effort evaluations, update on work-in-progress, and ensure timely submission of final reports to team manager.

Project - 2

Client Name: Leading European OEM
Project Name: Head Impact analysis on Center Console assembly
Solver: LSDyna
Software: Hypermesh, Hyperview and Hypergraph
Role:

- Prepare the FE model for ECE R21 head impact analysis guidelines using Hypermesh for center console assembly.
- The main activities are meshing, variable thickness assignment, quality checks, intersection and penetration checks, material assignment and model building for connections such as snaps, assigning contacts, creating time history evaluations, positioning head impactor on the customer specified impact locations, boundary condition, initial velocities, etc. and debug run is performed.
- Post-processing is performed to analyze the interaction of the loading device with the parts of center console assembly, deceleration of head form for 3 ms, check energy balance plot etc. using Hyperview and Hypergraph.
- Generating executive report with animations, measuring deceleration of head form for 3 ms, stresses, and plastic strain plots.
- Compiled and delivered detailed executive reports, including animations of test scenarios, and stress/strain plots.
- Regularly communicated with the team manager to provide effort evaluations, update on work-in-progress, and ensure timely submission of final reports to team manager.

Project - 3

Client: Leading European OEM
Project Name: Stiffness Test on LH side Center Console Assembly
Solver: LSDyna
Software: Hypermesh, Hyperview and Hypergraph
Role:

- Prepare the FE model for stiffness test at customer-specified locations on LH Side panel center console assembly
- The main activities are meshing, variable thickness assignment, quality checks, intersection and penetration checks, material assignment and model building such as assigning the connections for snaps, assigning contacts, creating time history evaluations, positioning the spherical loading device having a 10mm diameter at customer-specified locations on the center console and defining contact between them.

- Applying a load of 50N using a loading device, applying boundary condition and debug run is performed.
- Post-processing is performed to analyze the animation of interaction between the loading device and parts of center console assembly, check energy balance plot etc. using Hyperview and Hypergraph.
- Compiled and delivered detailed executive reports, including animations of test scenarios, and stress/strain plots.
- Regularly communicated with the team manager to provide effort evaluations, update on work-in-progress, and ensure timely submission of final reports to team manager.

Project - 4

Client Name: Leading European OEM
Project Name: Seatback Lateral Strength Test
Solver: LSDyna
Software: Hypermesh, Hyperview and Hypergraph
Role:

- Prepare the FE model for the Lateral strength test to analyze the structural strength of mounting brackets of the rear seat frame assembly
- The main activities are meshing, various thickness assignments, quality checks, intersection and penetration checks, material assignments, and model building such as assigning the connections for weld connections, bolting connections, assigning contacts, creating time history evaluations
- The circular disk of D20 mm with 5 mm thickness is positioned at 500 mm from the pivot center and defining contact between them, apply load vs time curve using loading device, applying boundary condition and debug run is performed
- Post-processing (result interpretation) using Hyperview with key outputs such as stresses and plastic strains of mounting brackets
- Compiled and delivered detailed executive reports, including animations of test scenarios, and stress/strain plots.
- Regularly communicated with the team manager to provide effort evaluations, update on work-in-progress, and ensure timely submission of final reports to team manager