Date: 2nd Oct 2021

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Name: Biswajit chakravarty

Education:

B.E in Aeronautical Engineering. Passed out 2015

Designation- Senior Design Engineer

Total Experience

- Total 4.5 years of Professional Experience
- Proficiency in Abaqus, Hypermesh and Optistruct
- Proficiency in Meshing (Sheet-metal, BIW, Plastic).

Cyient ltd, Hyderabad

Designation: Senior Design Engineer

(Oct 2019 – Oct 2020)

Hi-tech robotic systemz ltd, Pune

Designation: Design Engineer

(Jan2018-sep2019)

Greeman software solution pvt ltd, Bangalore

Designation: CAE Engineer

(July2016-Dec2018)

Key Projects:

- **Modal analysis of a complete car body (Bombardier, Hyderabad)**

1. Natural frequency check
    - The scope of the project to check natural frequency of the full car body.
    - The full car body consists of UF (under-frame), RF (roof), SW (side-wall), EW (end-wall) and CAB.
    - The parts are mainly sheet metal and aluminum extrusion.
    - We use shell mesh for 2D parts and for 3D parts we use solid mesh (Tet and Hex). Hex mesh is preferred for simpler parts, while tet mesh is used for precision.
    - Once meshing and connection is done, quality checks are performed.
    - On successful completion of quality parameters, modal analysis to check the natural frequency, connectivity and mode shapes are performed.
    - The objective to record resonance at which natural frequencies and structural deformation is achieved.

Software used: Hypermesh, Optistruct

- **Stress analysis of combined harvester (CNH industrial, Pune)**
  - The objective of the analysis is to troubleshoot field failures and recommend change in design. This is done with a view to overcome indian mid-range combined harvester field failures.
  - 2D, 3D meshing with connection is employed to overcome field failures and complete vehicle integration.
  - Free free modal analysis is carried out for correctness of assembly connection.
  - Stress analysis is performed to detect stress region and FEA replicate field failure components/areas.
  - Multiple iterations are performed to troubleshoot modified design worthiness, stress and stimulation for safety.
  - Generate reports to record failures and impact of design modifications.
  - Troubleshoot and record the modified design for successful real time run in the field.

  Software used: Hypermesh, Abaqus

- **Fe modeling of door trim of a car (Greeman software solution pvt ltd, Bangalore)**

  - Importing of IGES file through hypermesh software.
  - Identify upper trim, lower trim, handler, map pocket rubber pad and stiffener parts of the door.
  - Initiate geometric clean up and identify features like bolt, hole and fillets.
  - Development of minimum one layer around the hole and cut outs.
  - Extraction of mid surface for 2D mesh and dog house components.
  - Solid blocks were meshed by 3D.
  - Appropriate 2D mesh assigned with penetration checks.
  - Assembly carried out using connectors (RBAR, RBE2, RBE3, SPOT and BOLT).
  - Mesh connectivity and duplicates elements were checked.
  - The model was exported in solver(.fem file)

  Software used: Hypermesh, LS-Dyna

FE Modeling Key Projects:

- **F.E modeling of automotive engine parts**

  - Various engine components like engine block, pistons, cylinder head, crankshaft, valves, oil pan are sucessfully meshed using 3D mesh.
  - Work involves CAD geometry cleanup, meshing using standard tetra elements, geometry capturation, quality check parameters as per client requirements.

- **F.E Modeling of Automotive Seating System:**

  - Various seat assembly components like seat tracks, seat back rest, headrest, arm rest, reclining bracket, front cross member are meshed successfully using shell mesh.
  - Work done involves CAD geometry cleanup, mid surface extraction, mesh flow, elements connectivity, geometry capturation, quality checks parameters as per client requirement.

- **F.E Modeling of BIW Components:**

  - BIW Parts like hood, roof panel, door assembly and other Automotive Parts are meshed using hypermesh.
  - Work done involves CAD cleanup, mid surface extraction, mesh flow, elements connectivity, geometry capturation, quality checks and thickness assignment.

- **F.E Modeling of Bus Structure:**

  - BIW Parts like roof frame, side frames, front frame, rear frame and other automotive parts are successfully meshed using hypermesh.
  - Work done involves CAD cleanup, mid surface extraction, mesh flow, elements connectivity, geometry capturation, quality checks and thickness assignment.

Strength and hobbies

- Fast learner
- Dedication
- Hard work
- Drawing
- Singing

Declaration

I hereby declare that the above written particulars are true to best of my knowledge and Belief.

Date: 2/10/2021

Place: Bangalore