ANANT S

CAE – Analyst

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CAREER SUMMARY:

6.4 Years of experience in automotive industry, my experience includes FEA Model Build of Full Vehicle Body-in-white, Trimmed-body, Closures connection and Acoustic cavity modelling.

CAREER OBJECTIVE:

Seeking a career as a high level CAE Engineer in a reputed company to develop solutions for the company and high quality results for the jobs and duties being undertaken.

WORK HISTORY:

Organization : **Actalent Services**
Tenure : From SEP 2015-till date
Designation : CAE - Analyst

SOFTWARE SKILLS:

Pre-Processor Tool -- ANSA 20.1.3, HYPERMESH 17.0.
Post-Processor Tool -- HYPERVIEW, META.
PLM Tool -- Team Center, Vis mockup.
Solver -- Nastran & Abacus
Cavity Creation -- SFE AKUSMOD V2.6.4

ROLES & RESPONSIBILITES:

- Handling 15 members team as a Project Lead.
- Interaction with client for Input, query clarification and Delivering the CAE model on time with Quality.
- Supporting automation team for developing the scripts to increase the efficiency and quality process.
- Performed shell modelling for the sheet metal & plastic parts. Solid modelling for casting parts.
- Developing CAE modelling methods, requirements for NVH and Durability Analysis.
- Preparing the full body CAE welds based on CAD input and debugging.
- Good knowledge on build, and assemble FEA models for NVH and Durability Analysis in NASTRAN.
- Handling projects like Trimmed body, body-in-white, system & component level for at full vehicle level.
- Investigation of frequency response and mode shape of Trimmed body, Body-in-white and Closures.
- Creating acoustic cavity models from Trimmed-body and Cushion CAD for NVH Analysis.

PROJECTS:

Role : CAE Analyst
Client : Ford Technology Service India, Chennai.
Duration : 2017 to till

Project #1: Trimmed body/Body-in-white Full Vehicle Integration..

Scope: Build & Assemble Body-in-white and Trimmed body Model for NVH and Durability Analysis.

Description:

- The scope of the project is to create Body-in-white/Trimmed-body build for NVH and Durability Analysis..
- Involved in study of guidelines and reference model.
- Updating material and thickness for BIW parts as per EBOM and raising query for the missing inputs.
- Clearing penetration as per the customer requirements.
- Involved in weld connector creation and debugging process from team enter.
- Connection for Body-in-white such as Spot weld, Adhesive, Seam and Bolt Connections.
- Plugging in all Body-in-white Sub-system such as Mounts, Sub frame, GOR, Engine Cradle and LLP.
- Nastran Checks are done finally the model run for Optistruct and SOL103 and debug errors for BIP
- Check the modal results of BIP and Closures assemblies and assemble the BIP and closures together.
- Check the Sub-system (Instrument panel, seats and fuel tanks) assembly's connections, then has to do check run for the FSS assemblies.
- Assemble the FSS assemblies with BIP parts and give connections between FSS and BIP assemblies.
- Assemble the realized Trim mass with full vehicle and equivalence has to be done.
- NAPO's has to be given for particular grids.
- Performing Major checks including Connectivity, Duplicate, Free Nodes in Whole DB, Geometry, Mesh Quality for Shell and Solids, Model Data, Undefined Materials, Incomplete Elements, Dependency, Loop Nastran, Intersections between Parts and De-penetration.
- Nastran Checks are done finally the model run for Optistruct and SOL103. Generate the .out, .pchres and .f06 file and debug errors.
- Preparing Deviation report for assumptions and deviations, comparison report for stiffness, mass, gauge and grade with legacy model.
- Deliver the TB model with Check sheet, Deviation report and Output file.

Project #2: FE Modelling of Closures Assembly.

Scope: Modeling & Assembling the Closures for NVH and Durability Analysis.

Description:

- Project involves Development of Closures Model for NVH and Durability Analysis.
- Involved in study of Guidelines and Reference model.
- Updating Material and Thickness for BIW parts as per EBOM and raising query for the missing input.
- Clearing penetration as per the customer requirements.
- Involved in weld connector creation and debugging process from teamcenter.
- Connection for Closures such as Hemming ,Spot Weld, Adhesive, Seam, Weather Strip, Latch, Mastic Bead, Glass run and Beltline, Hinge and Bolt Connections
- Performing Major checks including Connectivity, Duplicate, Free Nodes in Whole DB, Geometry, Mesh Quality for Shell and Solids, Model Data, Undefined Materials, Incomplete Elements, Dependency, Loop Nastran, Intersections between Parts and De-penetration.
- Nastran Checks are done finally the model Run for Optistruct and SOL103 .Generate the .out, .pchres and .f06 file and debug errors.
- Preparing Deviation report for assumptions and deviations, comparison report for stiffness, mass, gauge and grade with legacy model.
- Deliver the model with Check sheet, Deviation report and Output file.

Project #3: Acoustic Cavity Modeling .

Scope: Modeling the Acoustic Cavity model for NVH Analysis.

Description:

- Project involves Modeling of Acoustic Cavity model for NVH Analysis.
- Involved in study the Trimmed body model.
- Extracting the parts (wet panel) from trimmed body which is the inner most panels.
- Based on the wet panel the boundary layer shell (balloon) will be created.
- Modelling The 3D/2D Elements Seats Based On Seat Structure & Cushion CAD.
- Modelling the air cavity (tetra elements) by combining boundary layer shell and 2D seat.
- Air cavity quality need to be check and update as per the guidelines.
- Creating Ear Point Grid In Air Cavity Based On Guidelines By Using Seat Cushion CAD.
- Updating material and numbering for air cavity and 3D seats.
- Creating fluid coupling (MPC) between air cavity and 3D seats.
- Creating fluid to structure coupling (MPC) between air cavity and wet panel.
- Performing Major checks air cavity to wet panel contact area, element Quality, Coupling connectivity.
- Checks are done finally the model Run for SOL103.
- Deliver the model with Check Sheet, Report and Output file.

Project #4: FE Modelling of BIW Parts.

Role : CAE Engineer
Client : Ford Technology Service India, Chennai.
Duration : 2015 to 2017

Scope: Meshing the BIW parts for the Durability and NVH attribute.

Description:

- Involved in creating CAE structure from consume structure , checking and comparing of new CAD with the reference one and making queries to client for Missing Parts, Major Intersection Parts, Thickness Variation for Symmetry Parts, Empty parts Checks, Parts to be/not to be model and for Missing Materials
- Based on the requirement the geometry preparation and meshing will be done for the Sheet Metal parts.
- BIW parts will be captured with the shell elements & assigned the thickness to the parts
- Parts name will be updated as per the CAD & Assembled as per the given CAD data.
- Thickness & Material will be assigned to the parts as per the given BOM.
- Clearing Intersection as per the customer requirements & capturing them in the PPT for reference.
- The Basics check will be done for the final mesh like Edges & Cracks , Normals, Quality criteria, Duplicates.

EDUCATION DETAILS:

- Bachelor of Engineering in Mechanical from Maharaja Engineering College affiliated to Anna university with 6.6 CGPA

- HSC in Computer Science from Vivekananda Higher Secondary School with 79.4 Percentage.

TOOLS USED:

- **ANSA and HYPERMESH** – Model build, quality check.
- **HYPERVIEW and META** – Visualize model animation and frequency
- **Team Center** – Weld Creation, Creating CAD structure, Input data collection and model delivery
- **Vis Mockup** – Check for part name, lifecycle and dimensions.
- **SFE AKUSMOD** - Creating Cavity from Trimmed body model.
- **MS PowerPoint** – Making queries, training document, data cascade presentation.
- **MS Excel** – Project & query tracking, recourse & work management.

AREA OF INTEREST:

- Finite Element Analysis.
- Strength of Material

PERSONAL DETAILS:

Date of Birth	:	07/06/1994
Age	:	27
Father's Name	:	R.Shanmugasundaram
Mother's Name	:	S. Rajamani
Gender	:	Male
Marital status	:	Single
Language Known	:	Tami & English.
Positive	:	Adaptability, Learning from Others.
Address	:	S/O R.Shanmugasundaram, 2/59,PeramandampalayaPudur, S.Valavanthi (P.O), Paramathi Velur (T.K), Namakkal (D.T) - 637017.

Yours Truly,
Ananth S.