ASHISH G

Objective

CAE Simulation Engineer with **3+ years of experience in Crash, Safety & NVH simulations**, specializing in pre-processing using **ANSA** and solving with **PamCrash, LS-DYNA & Nastron**. Skilled in full vehicle crash analysis, occupant safety, and NVH studies with strong expertise in meshing, model assembly, and result interpretation. Proven ability to support design teams by providing data-driven insights and proposing design improvements to meet safety and regulatory standards.

Education

Master in Mechanical Design , Bits Pilani Goa Campus, CGPA 8.67/10	**(**June 2020-June 2022)
Btech, Mechanical Engineering, MJP Rohilkhand University, **CGPA 7.9/10**	(June 2014-June 2018)
Secondary School (12th), Kendriya Vidyalaya Old Cantt, 75%	(May2014)
High.School (10th), Kendriya Vidyalaya Old Cantt, CGPA 8.4/10	**(**May 2012)

Skills

- **CAE Tools: ANSA** Software , **PAM Crash, Nastron** ,Hyper Mesh (Basic), **LS-DYNA** (Basic)
- **Analysis Types:** Linear Static Analysis, Nonlinear Analysis, NVH Analysis, Side & Rear Impact Analysis.
- **Post-Processing Simulation Tool :** Consolidate Result by Using GNSAnimator Simulation Software.
- **Programming:** Scripting (using Python) Automation , SQL (Data Analysis),Tableau Tool (Data Management)
- **Technical Proficiency:** AutoCAD Mechanical, Seimens NX, ANSYS Workbench(Static Structural, Explicit Dynamic, Buckling), MATLAB, Python3, C++ Language, Microsoft Office 2007.
- **Project Management**: Team Leadership, Cross-functional Collaboration.

Experiences

Renault Nissan Technology Business Center India (RNTBCI), Chennai

CAE Simulation Engineer (August 2022- August 2025)

- Conducted side, rear impact and NVH simulations using,**LS-DYNA, Nastron .** Developed and optimized physical test scenarios for new vehicle designs, reducing simulation times by **25%** with efficient meshing techniques and optimized element density, ensuring compliance with **FMVSS and Euro NCAP** safety standards.
- Used **GNSAnimator** Simulation Software for Post Processing to analyze crash and NVH behavior and optimize vehicle structure and passenger injury safety compared to real-world crash conditions.
- Worked with cross-functional teams to incorporate crash, NVH performance metrics into the vehicle design process, resulting in a **15%** enhancement in overall vehicle crashworthiness & NVH.
- Identified and addressed vehicle design issues early, reducing physical crash tests by **30%** and significantly **cutting testing costs.**
- Developed Python scripts to **automate CAE** preprocessing in **ANSA**, reducing manual effort and improving efficiency.

Airmeet , Bangalore

Data Analyst (Enhancement of Airmeet Product as a Data Analyst),(Jan 2022-June2022)

- To generate ideas toward Driving and building business visibility for different stakeholders.
- To worked closely with **Marketing And Sales/Growth** and Product teams to deliver their analytics requirements.
- To improve funnel optimization, marketing campaign Optimization and product feature/usage.

Bharat Heavy Electricals Limited (BHEL),Uttarakhand

Aluminum Bus Duct – Generator to Transformer Electrical Connector (June 2017-Aug 2017)

- Designed its component and performing assembly processes.
- Preparing the setup by using Rolling machining and **TIG/MIG** welding machining processes.
- Improved power transmission efficiency by **16-18%,** which improved the cooling system by **7-8%.**

Key Achievement

Emphasize measurable achievements that had a direct impact on the project or company. This could include cost savings, time reductions, or safety improvements.

Points Achievements:

- Reduced crash and NVH analysis simulation time by **25%** by optimizing meshing and leveraging high-performance computing (HPC).
- Successfully integrated **MDO** (Multidisciplinary Design Optimization) into the crash and NVH simulation process, improving the overall vehicle safety design by **20%**.
- Played a key role in taking a Countermeasure for new vehicle prototypes that achieved higher safety ratings (**Euro NCAP 5-star)** after crash testing as well as Cost reduction.
- Helped reduce the need for physical crash tests by **30%** through the use of virtual simulation and optimization.

Projects

1. **Numerical analysis of crashworthiness performance of crash box having various cross-sections under the action of quasi- static compression loading | CAAD | Tool : ANSYS Workbench (Mar 2021– Jun2021)**

- Designed 4 different geometrical shape crash boxes with varying thickness in AutoCAD.
- Performed Explicit Dynamic Analysis on ANSYS workbench to observe stresses, deformation and total energy absorbed.
- For an Aluminum alloy material, a Heptagonal shaped crash box proves to be 24% safer in all factors.

2. **Design and Development of Snow and Dust Removal Robot | Mechanisms and Robotics Tool : AUTOCAD (Nov 2020 – Feb 2021)**

- Designed a 3-DOF (R-R-R) robot with mechanical equipment to perform at High Altitudes like snow removing and dust cleaning.
- Performed forward & inverse kinematics to identify all feasible locations of the end effector to perform the required operation.
- Using one motion detector sensor and one proximity sensor.

3. **Determination of Stress concentration factors on square shoulder with fillet under axialtensile load| FEM| Tool : ANSYS Workbench (Nov 2020 – Feb 2021)**

- Designed 4 different Models with varying height (h) and radius of fillet (r) values.
- Performed Finite Element Analysis on ANSYS workbench under axialtensile load acted on it.
- It was observed that a 10% increase in height and radius gives a 2-3% decrease in stress concentration factor (Kf).

4. Combustion Simulation Studies of Compression Ignition Engine fueled with KaranjaOil - Biodiesel Blends| Internal Combustion Engine | Tool : MATLAB (Jan 2018 – Jun2018)

- Model an IC Engine that is environmentally friendly by using Karanja Oil-biodiesel blend with 20% and 40% diesel.
- Performed Experimental and Combustion MATLAB simulation studies by changing parameters like pressure, mass-burn fraction, etc.
- It observed that the diesel profile is approximately the same as the 40% biodiesel blend with -20-to-40-degree crank angle variation.

5. Inertial focusing of Spherical Particles in Micro-channels Over a wide range of Reynolds Number | CFD | (Mar 2021 – Dec2021)

- Observing an inertial flow effect on a controlling particle position at high speeds in micro-fluidic channels.
- Optimizing wall interaction, shear gradient lift, and drag forces to improve concentration limits

Certifications

Certification	Certifying Authority	Descriptions
Ansys Workbench, Seimens NX, LS-DYNA, Abaqus	Linkedin, Simulia, Udemy, Internshala	Experienced in integrated CAD and simulation workflows using Siemens NX, LS-DYNA, and Ansys Workbench for advanced design and structural analysis.
Scripting (using Python) for Software Automation, Data Analyst.	Internshala, Linkedin	These courses emphasizes Basics of Programming in Python, Data Visualization for Data Analysis and Analytics, AI Show: Audio Analytics with Azure Automated ML.
POSITION OF RESPONSIBILITIES		
Teaching Assistant in Thermal - BITS PILANI-KK BIRLAGOA CAMPUS		Mar 2021 - Mar 2022
AWARDS & RECOGNISATION	Carrom Board and Sketch Drawing Championship organized by HEAD OF MECHANICAL DEPARTMENT Secured 2 nd and 1 st positions and also this sketch is posted on the college wall.	