

# Jadhav Akshay

FEA Engineer

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DoB - 04<sup>th</sup> Jun 1995

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## Summary

Having a total of 2.8 years of professional experience in linear and Nonlinear FEA analysis. Also having Expertise in modelling HYPERMESH and ABAQUS solver, having conceptual knowledge & exposure over NVH parts and FEA. I have knowledge of 1-d simulation in AVL Excite.

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## Technical Skills

- Non Linear Analysis/Modal Analysis of Rubber components, Dampers, Vehicle suspension bushes, Brackets, Hydro Mounts, Engine Mounts using **Hyper mesh** and **Abaqus Solver**.
  - Knowledge of Torsional Vibration Damper for tuning of frequency against critical speed of shaft and engine orders by using **AVL EXCITE Designer** for **1-D Simulation**.
  - Prepare technical presentations and FEA reports and having excel knowledge.
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## Experience

### 1. Maruti Suzuki India Limited.

Assistant Manager, Gurgaon, India. 20/07/2023 – Present

### 2. Premier Seals India Pvt. Ltd.

FEA Engineer, Pune, India. 21/11/2020 - 19/06/2023

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## Projects

### Rubber Engine Mounts, Transmission mounts, suspension bushes by using Linear and Non-linear analysis

An engine mount's primary purpose is to secure an engine into machinery and absorb any shocks and vibrations when the machinery is operating. Engine mounts and anti-vibration mounts are essential for preventing damage to the engine and improving operator comfort.

Responsible for understanding the functionality.

- Responsible for understanding the functionality.
- Prepared 1D, 2D, 3D modeling in hyper mesh.
- Perform a modal analysis by using Abaqus solver to meet static direction (X-X, Y-Y, and Z-Z).
- Generated FEA reports in excel and prepared technical presentation.

### Validation of MASS DAMPER using Non-linear modal analysis with Impact hammer test.

Mass dampers are ideal for applications where vibrations transmitted from the road surface or the engine into the chassis need to be reduced with opposing inertial forces.

- Responsible for understanding the functionality.
- Prepared 1D, 2D, 3D modeling in hyper mesh.

- Perform a modal analysis by using Abaqus solver to meet frequency.
- Generated FEA reports in excel and prepared technical presentation.
- Validate proto samples by using impact hammer test.

### **Non-linear modal analysis for Torsional Vibration Damper.**

Torsional Vibration Dampers absorb rotational vibrations in internal combustion engines. The dampers are particularly effective in conjunction with decoupled pulleys, which keep crankshaft irregularities away from the belt drive and auxiliaries.

- Responsible for understanding the functionality.
- Prepared 1D, 2D, 3D modeling in hyper mesh.
- Perform a modal analysis by using Abaqus solver to meet frequency.
- Generated FEA reports in excel and prepared technical presentation.

### **To evaluate the cylinder crank train design dynamics (torsional vibration) using multi-body simulations by AVL EXCITE Designer.**

Crankshaft is a component in the Internal Combustion Engine which changes motion between reciprocating motion of the piston and rotational motion of flywheel. If the crankshaft development stage is not accordance with what is required, then when operating the crankshaft will be obtained torsional vibration larger than boundary value of the crankshaft, and might damage the crankshaft. To minimize the effect of vibration multi body simulation were use.

- Responsible for understanding Crank train system.
- Prepared Shaft model in AVL excite designer.
- Compared crank train with pulley and TVD damper critical rpm and angular deformation results.
- Generated 1-d Simulation reports and prepared technical presentation.

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### **Education**

#### **Master of Technology (2021)**

Manipal University, Udupi, Karnataka, 79.96%

- Specialization in Computer Aided Analysis and Design (CAAD).
- Completed project of Methodology Establishment on Non-Liner static and dynamic analysis for automotive parts.

#### **Bachelor in Mechanical Engineering (2017)**

Pune University, Pune, Maharashtra, 69.13%

- Specialization in Mechanical.
- Completed project – Experimental study of Aerodynamics through a conical annulus and axial flow runner.

### **Declaration**

I hereby declare that the details and information given above are complete and true to the best of my knowledge.

**Date: 21/08/2023**

**Place: Gurugoa.**

**Thanks and Regards,  
(Akshay S Jadhav)**