

SUMMARY: MS Mechanical Engineering student specializing in the field of Automotive Engineering, with extensive engineering project experience, skills in NVH, Test Design, and FEA Analysis; and leadership experience.

EDUCATION

Michigan Technological University
MS Mechanical Engineering | GPA: 3.75
XYZ University
BS Mechanical Engineering | GPA: 3.85

Houghton, MI
Expected May 2017
XYZ, USA
May 2015

ENGINEERING PROJECT EXPERIENCE

Noise and Vibration Reduction

Objective: To determine the sources of noise and vibrations by conducting series of NVH tests and recommend design modifications to the corporate sponsor

- Performed Order Tracking of the data from accelerometers and microphones using LMS Test.Lab software
- Performed Operating Deflection Shapes (ODS) Testing, Acoustic Intensity Testing for critical operating conditions and MIMO (Multiple Input Multiple Output) Modal Analysis
- Performed order tracking while removing the components one by one to understand the orders associated with each component and the possible sources

Reverb Room Diffusivity and RT60 Measurement

Objective: To measure diffusivity of the reverb room with a set of speakers placed at 6 corners of the room facing the wall and the room configuration and measuring RT60 time

- Acquired SPL for 100 data points in the reverb room for new configuration of speakers
- Performed Data Analysis in 1/3rd octave band to determine the diffusivity of the acoustic field
- Calculated RT60 values using Larson and Davis equipment for the two types of sound source
- Resulted in 15 dB increase in SPL than previous speaker and verified previously calculated RT60 time

SRAM Bike Brake Squeal

Objective: To determine modes causing brake squeal and recommend design changes to the corporate sponsor

- Performed modal analysis of brake rotor of the bike by impact testing using the LMS Test.Lab software
- Studied mode shapes and determined the mode and its harmonics causing the brake squeal at 350 Hz
- Suggested design modifications and solutions like asymmetric brake rotor to reduce the brake squeal

FSAE A-arms Design and Analysis

Objective: To design A-arms (control arms) and perform FEA analysis using ANSYS Workbench

- Design and assembly of A-arms and other chassis components of F-315 for given suspension geometry
- Determined loads on A-arms under the influence of braking, accelerating and cornering forces
- Performed Structural Analysis using ANSYS to determine the stress and deflection of the A-arms

Determining the dominant orders of unbalanced motor using FFT & TVDFT methods

- Processed signals from tachometer and accelerometer and determined speed profile using color-maps
- Tracked orders using FFT based and Time Variant Discrete Fourier Transform (TVDFT) methods using constant order and constant frequency bandwidth in MATLAB

LEADERSHIP / MANAGEMENT EXPERIENCE

Team Leader and Co-Chair for organization of College's Cultural Festival

- Organized 'SUNBURN' EDM Night and managed a crowd of 600 people
- Lead a team of volunteers to create posters, logo, website, marketing video, photography etc.

Event Organizer for College's Technical Festival

- Organized 'Contraption' event in college's Technical festival
- Assigned tasks to team, mentor, teach and supervise work, schedule and conduct team meetings

CO-CURRICULAR AND EXTRA CURRICULAR INVOLVEMENT

- Formula Society of Automotive Engineers (FSAE), MTU Chapter
- DFMA – 'Efficient Product Design Cost Conscious Manufacture' workshop certification
- Presented Business Plan in "Student Entrepreneurship and Innovation Challenge 2013"

COMPUTER/TECHNICAL SKILLS

- CATIA V5
- COMSOL
- MATLAB
- LMS Test.Lab
- Amesim
- ANSYS
- SOLIDWORKS
- Autodesk Inventor

