

## MECHANICAL ENGINEERING INTERN

### Summary

CAD | CAM | Finite Element Analysis | Mechanical Design | Product Design and Development

### Skills

- 5 years of experience with CAD packages (SolidWorks, Autodesk Inventor, AutoCAD, CATIA, PTC CREO)
- 2.5 years of experience with CAE Softwares (HyperMesh, Abaqus, ANSYS, Optistruct)
- 2.5 years of experience with Analysis (Linear & Non-linear Static, Dynamic, GD & T, Tolerance Analysis, Design Optimization)
- Experience with Sheet metal, Design for manufacturing, generating Bill of Materials, DFMEA, Sculpting.
- Experience with advanced material selection for rapid prototyping, advanced manufacturing, welding and 3D printing.

### Experience

09/2013 to 05/2014

#### Company Name

- Finite Element Analysis of Industrial Robotic Assembly, Illinois Institute of Technology, Chicago Jan - May 2016.
- Conceptualized, brainstormed and designed a 6-axis SCARA Robot for pick and place operation in automotive industry.
- Performed static analysis with stainless steel 304 to evaluate the maximum load an assembly can lift before yielding.
- Also, analyzed Gripper and joints to eradicate future failures.
- Optimized design using OptiStruct by varying mesh sizes and element order.
- Simulated assembly with dynamic analysis to find distorted elements and to verify optimized structure.
- Reliability Engineering Analysis on Automotive Oil Pump, Illinois Institute of Technology, Chicago Sept - Dec 2015.
- Used industrial reliability specifications to select the power consumption and flow rate at three distinct levels of rpm to study its variability.
- Improved system using Taguchi analysis by optimizing signal to noise ratio.
- Conducted Failure Mode Effect Analysis (FMEA) to analyze potential causes of failures to deliver clean oil upon demand Abstracted and designed Near Dry Machine with two inlet nozzles.
- Performed fluid analysis and actual results on lathe machine.
- Provided vegetable oil as a coolant with pressurized air on flank face of the tool, which resulted in unburnt and recyclable chips.
- Gearbox Design, Narsee Monjee Institute of Management Studies, Mumbai Jan - May 2013.
- Designed a gear box with different gears such as spur, helical worm by considering seals, lubricating oil and bearings.
- Assigned materials and performed dynamic simulation to define contact surfaces.

06/2013 to 08/2013

#### Mechanical Engineering Intern Company Name

- Initiated a project to perform a failure investigation in mufflers due to the low clearance of roads and provided feedback.
- Established and coordinated maintenance, GD&T, safety procedures, service schedule and supply of materials in the maintenance shop.
- Developed failure reports including feedback based on common failures from the automotive industry.
- Set up and calibrated accelerometers on Hyundai cars to conduct tests to analyze the modes of vibration of vehicle and the steering column.

05/2012 to 07/2012

#### Manufacturing Engineering Intern Company Name

- Analyzed automation, process parameters, different equipment to shape and control the profile of chips and Manufacturing process of Hot Strip Coil.
- Re-designed the existing shop floor to improve space utilization, increase material flow, optimize labor and reduce holding costs by 5% and improved space utilization by 20%.
- Performed statistical analysis on historical data of the operating parameters using SPC and DOE's to identify significant factors contributing to process deviation and affecting the cold crushing strength of the pellet.
- Generated Bill of Materials and calculated overall manufacturing cost.

### Education and Training

May 2017

Master's : Mechanical & Aerospace Engineering Illinois Institute of Technology (IIT)  $\frac{1}{4}$  City , State Mechanical & Aerospace Engineering 3.5/4.0  
Advanced CAD/CAM, Engineering Analysis, Finite Element Analysis, Advanced Manufacturing

May 2014

Bachelor of Technology : Mechanical Engineering Narsee Monjee Institute of Management Studies  $\frac{1}{4}$  City India Mechanical Engineering 3.19/4.0

### Work History

#### Company Name

#### Certifications

Autodesk Certified Professional in Autodesk Inventor Professional Software. (License # 00313355) \*Autodesk Certified Associate in AutoCAD Software. (License # 00296190)

#### Publications

Parekh R., Chaudhary R., Ingle A. (PhD), "Reliability of Dissimilar Metal Joints using Fusion Welding: A Review" presented at the International Conference on Machine learning, Electrical and Mechanical Engineering (ICMLEME'2014), Dubai (UAE)

### Skills

3D, ANSYS, AutoCAD, automation, Automotive, CAD/CAM, CAD, CATIA, Dec, Engineering Analysis, lathe, Manufacturing process,

Materials, material selection, Oil, Optimization, pick, prototyping, Robotic, safety, simulation, SolidWorks, SPC, statistical analysis, welding