

ABHIJEET SINGH RAINA

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EDUCATION

Texas A&M University

Master of Engineering in Mechanical Engineering GPA: 3.9

College Station, TX

May 2020

Vellore Institute of Technology

Bachelor of Technology in Mechanical Engineering GPA: 3.75

Chennai, India

May 2017

EXPERIENCE

Varroc Group Pvt. Ltd.

Graduate Engineer

Aurangabad, India

July 2017 - Nov 2017

- Applied 5S principles in gear and drivetrain manufacturing process, which reduced cycle time for 5 processes.
- Optimized PTA welding process parameters using DOE, reducing process specific defects by 21%.
- Performed FMEA and RCA on engine valve manufacturing process.
- Performed thermal and structural analysis on IC Engine valves.
- Worked on installation and commissioning of PTA Welding machine, which reduced cycle time by 8%.

PROJECTS

Optimize Ball Grid Array Package

- Developed a mathematical model of the BGA package and used MATLAB to optimize design parameters.
- Optimized the thermal and structural performance which reduced the operating temperature by 22OC.
- Minimized package cost and silicon chip temperature.

LPS Design, Value Stream Mapping – VTI of Texas, Bryan, Texas

- Designed a Lean Production System for one of the three product groups, which increased the productivity by 31% and reduced WIP by 17%.
- Created the Value Stream Flow Map for VTI's Bryan plant for all product groups.
- Determined Value-Added time, Non-Value-Added time, Process Lead time and thus the Process Cycle Efficiency.

Hydraulic system design of Roll-off trailer

- Designed a roll-off trailer with improved strength and designed piping system for its hydraulics.
- Performed structural and dynamic stability analysis.

Increase productivity – Boots, Texas

- Implemented lean production and manufacturing techniques which increased productivity by 4%.
- Developed IDEF0 model for modelling and understanding the production system to streamline the process.

Designed car seat with increased Impact Strength

- Redesigned a car seat to prevent seat back failure in case of rear-end collision. Increased the strength by 22%.
- Modelled & analyzed the structural strength in SolidWorks.

Designed & Fabricated Satellite Model – CANSAT ,ARDL, India

- Designed, Fabricated and launched a Can-shaped satellite model with deployable lander for payload delivery.
- Performed structural analysis using AutoCAD & ANSYS.

SKILLS

- CAD/CAM Modelling and Analysis – SolidWorks, AutoCAD, ANSYS, Autodesk Fusion 360
- Programming – MATLAB and C
- Others – Minitab, Microsoft Office Tools, Visio and Simio

ACTIVITIES

- **Supervisor at Aggie Hospitality, Texas A&M, College Station** – Managed operations of concessions stand during sports events. Managed inventory & lead team members.
- **VIT Dance Club, Vellore Institute of Technology, India** – Organized multiple cultural events. Performed on stage at various cultural events. Mentored members of the club with periodic training sessions.