**SANTHOSH MANTENA**

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**CAREER OBJECTIVE**

Mechanical engineer, seeking new challenges in mechanical design engineering position, where I can utilize my mechanical/structural design and manufacturing techniques for my career development as well as for the progress of my organization growth.

**PROFESSIONAL SUMMARY**

* Highly skilled mechanical engineer with 3 years of experience in design, manufacturing, production, planning and control.
* Highly motivated, result oriented mechanical engineer and ability to lead a team towards the prescribed goal.
* Deft in creating engineering drawing, analysis, machining and manufacturing processes.
* Experienced in Geometric Dimensions & Tolerance (GD & T) stack up principles and Root cause analysis.
* Backed by advanced skills in Design for Manufacturability (DFM) best practices and numerous CAD/CAE/CAM tools, FEA modeling and analysis.
* Experienced in numerous machine design software’s such as CATIA, Pro-E, Solid Works, AutoCAD, Unigraphics NX to create 2D and 3D models.
* Provide support with BOM and routings validation. Perform time studies as required to ensure standard time and standard cost accuracy in our SAP MRP system.
* Contributed in design modifications to facilitate manufacturing operations or quality of products.
* Checked drawing plots versus the project input for correctness and conformance to standards, and work with engineers regarding model accuracy, design, drafting standards, and ECO/ECR documentation.
* Run the SLA machine (3D printer) to produce prototype parts per engineering requests.
* Develop 3-D models of the product and performance for detail product analysis (structural analysis, tolerance stack analysis.
* Provide support in both CAD software (CATIA, PRO-E) and PDM software.
* Checking, editing and preparation of general arrangement drawings and equipment detailed drawings.
* Coordinate with customers for product design and development.
* Develop operational strategies to achieve production.
* Prepare and maintain the production reports and personal records.

**PROFESSIONAL EXPERIENCE**

**Mechanical Design Engineer Intern April 2018 - Present**

LOGGING-IN.COM, INC – **Farmington Hills, Michigan**

* Designed parts using CATIA V5, Solid Works and AutoCAD for drafting workbenches and sheet metal assembly.
* Detail drawings consisted of all mechanical parts, assemblies and sections, pneumatic safety systems, and isometric conceptual presentations.
* Extensive field work from beginning phases of mobilization through actual project construction, assembly, installation of structures/systems and equipment and final testing of operations and safety.
* Provide support with BOM (Bill of Materials) and routings validation. Perform time studies as required to ensure standard time and standard cost accuracy in our SAP MRP system.
* Worked cross functional with design and manufacturing teams to adhere product requirements.
* Maintaining process integrity by developing and updating policies, procedures, methods and guidelines.
* Gained more experience in GD&T, DFMEA and PFMEA techniques to design in CATIA V5, UG NX and solid works for better manufacturing.

**Junior Mechanical Engineer July 2014 - December 2015**

TECHNO PAD ENGINEERS – **Hyderabad, Telangana**

* Design and development of mechanical seals for pumps and compressors.
* Contacting the customers for specified sizes of seals as per their required dimensions for the compressors and pumps.
* Checking the dimensions and the materials of the required seal for precision.
* Detail drawing preparations for proto typing and manufacturing feasibility studies using Catia V5 and Pro-E.
* Preparing and submitting design verification plans and reviewing test reports with product validation teams.
* Leading design visualization efforts with 3D CAD models and essential component and assembly details to explore multiple design options.
* Developing innovative designs to meet all requirements for performance, reliability, serviceability, warranty, cost and manufacturability.
* Developing engineering design concepts for components and mechanical assemblies that have tough requirements for usability, precision, reliability, cost and schedule.
* Conversion of models from 2D to 3D, migrating 3D models from other software's to Catia V5R20.
* Performing stress analysis and static structural analysis on the final product using ANSYS 16.0.
* Working on the client’s place for the installation of the product and rectifying any errors generated.
* Make sure that products were produced on time as well as of superior quality.

**Mechanical Engineer Intern January 2014 – June 2014**

TECUMSEH INDIA PVT LIMITED – **Hyderabad, Telangana**

* Worked on designing interior subsystems like Crankshaft, Cylinder Block, Main Bearing etc. using CATIA V5 Generative Shape Design (GSD) and used DFMEA for design development.
* Modified CAD data along with Bill of Materials (BOM) as required to meet manufacturing requirements.
* Improved the design for good manufacturing by specifying suitable drafts to meet the quality requirements.
* Draft analysis of a part body in Catia V5 and change drafts accordingly.
* Collaborated with the machining, production, and sales department to meet schedule.
* Ensure that all health and safety guidelines were followed.
* Identify unsafe operations and practices and report to the manager immediately.
* Overshow the production process and managed the production schedule.
* Performed troubleshooting maintenance and repair of industrial robotics.

**Design Engineer Intern July 2013 – December 2013**

CENTRAL INSTITUTE OF TOOL DESIGN – **Hyderabad, Telangana**

* Created 2D & 3D models, assemblies and detail drawings for the manufacturing of components.
* Assisted in resolving design issues as well as generated design concepts and recommended solutions.
* Design & manufacturing of jigs, dies, fixtures and gauges using CATIA, AutoCAD software’s.
* Planned and coordinated own work as well as produced schedules for assigned tasks.
* Produced designs and completed drawing requirement check sheets.
* Performed engineering calculations to support component and assembly designs.
* Worked directly with outside vendors and manufacturers to drive design manufacturability.
* **CNC Programming** and Machining – overview of CNC m/c. – G Codes – M Codes using Mastercam.

**ACADEMIC PROJECTS**

**Design and Analysis of an Axial Turbine Engine Blade with ANSYS CFX Simulation.**

* The model is designed in ANSYS 18.2 using Blade-gen component system.
* The designing is done in three stages. Designing of rotor blades, designing of stator blades and assembly of rotor and stator blades.
* Analysis is done in CFX module of ANSYS to get high performance computational fluid dynamic, reliable and accurate results.
* Finally, the work done by the blades and nozzle efficiency is calculated.

**Design & Analysis of an Automated Guided Vehicle with Obstacle Detection Using Ultrasonic Detectors.**

* Project is to design an AGV using ultrasonic detectors.
* Assisted in material selection and assembling of prototype model for its working.
* Installation of the components like Battery, Micro controller, Ultrasonic Sensors, and LCD Screen.
* Programming the commands to micro controller.
* Documented the project work.
* Future development using the solar energy techniques.

**Design of a Fixture for Turbo Fan Engine with Analysis in CATIA V5.**

* Designed a fixture base that can hold to required position.
* A beam is designed to lift the total turbo fan engine.
* Analysis is done on both the fixtures with varied materials.

**EDUCATION**

**Master of Science in Mechanical Engineering January 2016 – December 2017**

UNIVERSITY OF BRIDGEPORT – **Bridgeport, CT**

**Bachelor of Technology in Mechanical Engineering August 2011 – May 2015**

JAWARLAL NEHRU TECHNOLOGICAL UNIVERSITY – **Hyderabad, Telangana**

**ADDITIONAL INFORMATION**

**Skills:** Geometric Dimensioning & Tolerancing (GD & T), Lean six sigma, Extremely Organized, Excellent Verbal and Writing skills, Excellent communication skills, Able to manage time wisely, follows directions and learn quickly, Trilingual (Telugu, Hindi & English), CNC Programming, Machine Drafting, problem solving & conflict resolution, focused on producing high quality deliverables and meeting customer expectations etc.

**CAD Software’s:** CATIA V5, ANSYS, SOLIDWORKS, CREO (PRO-E), AUTOCAD, MATLAB, EES.

**Other Software’s:** Adobe Photoshop CC, Final Cut Pro X, Adobe Premier Pro CC etc.