

Shanmukha Ram Peri

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EDUCATION

Clemson University

Master of Science in Mechanical Engineering | CGPA - 3.84/4

Clemson, South Carolina

August 2021- May 2023

Vellore Institute of Technology

Bachelor of Technology in Mechanical Engineering | CGPA - 3.8/4

Amaravati, Andhra Pradesh

July 2017- May 2021

COMPETENCE OVERVIEW

Skills: Solidworks, AutoCAD, Fusion 360, PTC Creo, Siemens NX, Ansys Workbench, Hypermesh (Preliminary meshing basics), Ultimaker Cura, Simplify3D, C++, Minitab, MATLAB, MS Office.

Certifications: Certified Solidworks Associate in Mechanical Design (CSWA), Lean Six Sigma Green Belt (LSSGB).

PROFESSIONAL WORK EXPERIENCE

CinchSeal Associates, Inc

Cherry Hill, New Jersey

Mechanical Engineer

January 2024- Present

- Designed over 500 rotary valve seals, mechanical seal parts, assemblies, and assembly drawings using SolidWorks for various machines, including screw conveyors, lumpers, plough mixers, and augers.
- Created and released more than 100 detailed engineering drawings for production, enabling streamlined manufacturing and reducing revision cycles by 15% through optimized tolerancing and GD&T practices.
- Performed wear simulation and durability analysis on prototype seals using an in-house test rig under varying RPM, temperature, and pressure conditions, increasing product validation accuracy by 40%.
- Reviewed and validated dimensional inspection reports for components manufactured in China, ensuring a 98% compliance rate with GD&T specifications and minimizing rework.
- Supported cost estimation and quoting by assisting the EVP in generating over \$500K in customer quotes, integrating real-time raw material pricing trends into QuickBooks and HubSpot systems.

Toshiba Global Commerce Solutions

Durham, North Carolina

Mechanical Engineering Intern

June 2022- August 2022

- Engineered multiple camera housing systems, incorporating sheet metal and injection molded components, to prevent theft in self-checkout systems with a surveillance success rate increasing by 25%.
- Prototyped different parts using 3D printers and workshop tools and tested against performance parameters, achieving 90% accuracy in design validations.
- Conducted extensive research into emerging technologies such as LIDAR, AR & VR, recommending four successful invention ideas for the Toshiba summer invention challenge.

Garuda 3D

Hyderabad, Telangana

Mechanical Engineering Intern

December 2020- July 2021

- Designed and 3D printed 25+ microcontroller casing prototypes for microcontrollers using Solidworks and Ultimaker Cura, optimizing performance and adhering to established design specifications.
- Developed custom assembly instructions using line balancing algorithm and streamlined assembly processes for 50+ FDM 3D printers in the industry, increasing production speed by 15%.
- Delivered comprehensive technical workshops on additive manufacturing to over 200 attendees, educating high school students and teachers on 3D printing machines and slicing software.

ACADEMIC PROJECTS

Design and Analysis of BIW structure for new vehicle design

Tools/Technology- Solidworks, Hypermesh

January 2022- May 2022

- Designed a Solidworks-based Body in White (BIW) layout topology adhering to performance and safety criteria.
- Performed comprehensive FEA tests in HyperMesh, ensuring collision safety through analyses of bending and torsional stiffness, crashworthiness (front and rear), and limit load.

Design and Analysis of Lengthwise Gradient Honeycomb Core for obtaining graded beam properties

Publication: Shanmukha, P., & Rama Sreekanth, P. S. (2022). Design and analysis using aluminum 6061 for lengthwise gradient honeycomb structure to obtain graded beam properties. *Materials Today: Proceedings*, 56, 1075–1082.

Tools/Technology- Solidworks, Ansys Workbench

July 2020- December 2020

- Designed different honeycomb structures (regular and lengthwise), analyzing geometric properties such as honeycomb density, web density and cells per honeycomb surface area.
- Simulated multiple cantilever beams with a lengthwise gradient honeycomb structure under different loading conditions, yielding 15.43% reduced deformation compared to the regular honeycomb structure.