Yashas Jayaprakash

(408) 334-1788 | yashasvale46@gmail.com | LinkedIn | | Portfolio

Mechanical Engineer with expertise in Design, Analysis and Manufacturing. Skilled in delivering scalable solutions, refining workflows, and providing actionable insights through root cause analysis. Strong problem-solving, communication, data assimilation and time-management abilities. Available to contribute starting February 2025.

Education

Master of Science in Mechanical Engineering Dec 2024
San Jose State University, San Jose, California

Bachelor of Engineering in Mechanical Engineering Aug 2020
PES Bangalore South Campus, Bengaluru, India

Professional Experience

Teaching Associate, Design & Graphics Jan 2024 – Dec 2024
San Jose State University San Jose, CA

- Developed comprehensive lesson plans and tutorials in 3D modeling tools by Facilitating hands-on lab sessions to encourage problem solving skills and increase proficiency in technical drawing and design software.

Engineering Intern, Component Engineer May 2023 – Aug 2023
Superior Industries Morris, MN

- Optimized mechanical assemblies using CAD and finite element simulation, achieving a 15% reduction in material costs by enhancing design efficiency and incorporating DFM principles with the components design team.
- Conducted failure analyses (stresses and strain) validation tests on mechanical components, utilizing techniques in metal and plastic molding to reduce failures by 15% and improve overall product performance by 10%.
- Spearheaded performance testing and prototyping of revised pulley and idler designs, integrating advanced fabrication and injection molding techniques, which increased operational efficiency by 25% over previous models.

Project & Sales Engineer Jan 2020 – Jun 2022
KNND Associates Private Limited Bengaluru, India

- Directed a technical team in the design and launch of next-gen centralized HVAC&R systems using advanced CAD tools and international procurement strategies, resulting in a 15% increase in system efficiency.
- Conducted comprehensive energy audits of industrial chillers using thermal load calculations that achieved 13% reduction in power consumption while implementing thermodynamic cycle analysis to enhance Coefficient of Performance.
- Enhanced project management processes for mechanical product developments, focusing on cost-effective design and accelerate project timelines by 15% without sacrificing quality.

Mechanical Design Intern Jan 2019 – Mar 2019
Hindustan Aeronautics Limited Bengaluru, India

- Performed design validation of helicopter pressure refueling systems utilizing CAD tools, resulting in 20% reduction in maintenance downtime through optimization of quick-disconnect coupling mechanisms.

Projects

Process control of Ceramic On-Demand Extrustion Process

- Engineered and optimized a novel Ceramic-On-Demand Extrusion (CODE) process for alumina components, achieving a 98% accuracy in print density. Led cross-functional team in implementing Design of Experiments (DOE) methodology resulting in 30% reduction in defect rates and enhanced microstructure uniformity

Piston Head Optimization

- Achieved a 28.8% reduction in deformation of a domed piston head having a compression ratio of 9.5:1 through static analysis, sensitivity study, and optimization tools using Ansys and reducing the points of singularity.

Publications

- Published a research paper in May 2018 on "Synthesis and Mechanical Properties of Araldite/Wooden Powder/Lead Oxide/ PPY/PANI Composites" in the International Journal on Scientific Research in Science and Technology (IJSRST).
- Published research paper on "Role of suspended particles in cooling a stretching film at a desired rate" for Advances and Applications in Mathematical Science, Mili publications, September 2022.

Technical Skills

Design Skills: AutoCAD, CREO, Catia V5, NX, SolidWorks, Revit, AutoDesk Suite, Fusion 360, GD&T (ASME Y14.5), Manufacturing Process (DFM/DFA), Specification Reviews, Metal Fabrication, Industrial Design
Analysis Tools: Ansys, Carrier HAP, FEM/FEA, Engineering Analysis, Root Cause Analysis, Quality Control
Computer languages: Python, MATLAB, Excel
Related Too: Rapid Prototyping, Product Design, Product Life Cycle Management, Testing, BOM