Lakshya Tiwari

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Professional Summary

Dynamic Mechanical Engineer with expertise in advanced materials, mechanical design, and simulation. Highly skilled in CAD tools (SolidWorks, Creo, AutoCAD) and programming (Python, MATLAB). Proven track record in leading product development from concept through production, emphasizing efficiency, sustainability, and high-performance standards. Adept at managing design documentation, collaborating with cross-functional teams, and delivering innovative engineering solutions that meet regulatory requirements and exceed project expectations.

Experience

BCVS Group Inc. **Austin, TX**
Mechanical Engineer **September 2023-Present**

- Played a pivotal role in the R&D team, ensuring strict compliance with Design History Files (DHF) documentation and testing, significantly contributing to the successful development and launch of the mechanical device.
- Applied and enhanced advanced engineering principles to oversee design, development, testing, and quality assurance activities, driving streamlined workflows, improved product quality, and regulatory compliance.
- Utilized Product Lifecycle Management (PLM) tools to manage Design History Files, Bills of Materials (BOMs), and change orders, demonstrating precision in documentation and seamless workflow integration.
- Authored and executed Test Protocols, Test Method Validations, and Gauge R&R studies for systems, ensuring validation of fixtures, assemblies, and test equipment through detailed DFMEA, PFMEA, DMR.
- Supported critical activities in DFMEA, Risk Management, New Product Introduction (NPI), and Manufacturing Change Orders (MCO), aligning with FDA, ISO 13485, GMP, and industry best practices.
- Utilized 3D printing technologies and rapid prototyping methods to produce functional prototypes for design iterations, accelerating development timelines and supporting hands-on product innovation.
- Developed robust mechanical design concepts and detailed 3D CAD models using SolidWorks 2023 and Creo, optimizing for functionality, manufacturability, and structural integrity.
- Collaborated with cross-functional teams and suppliers to implement DFM/DFA principles, resulting in reduced production costs, minimized inefficiencies, and enhanced assembly performance.
- Applied Geometric Dimensioning & Tolerancing (GD&T) to ensure precision, manufacturability, and assembly integrity, improving consistency, reliability, and product performance.
- Conducted FEA simulations, life cycle testing, and design reviews, applying Six Sigma and Lean methodologies to continuously improve product quality, durability, and cost-effectiveness.

Solinst Canada Ltd. **Tempe, AZ**
Mechanical Engineer **June 2023-August 2023**

- Engineered mechanical packer components in SolidWorks, ensuring functionality and form through iterative modeling, prototyping, and testing to meet project specifications.
- Produced 3D models and prototypes in SolidWorks, ensuring manufacturability and adherence to project specifications while maintaining product quality standards.
- Conducted CFD simulations in ANSYS to optimize performance, structural integrity, and product reliability, improving efficiency and functionality to meet project requirements.

Manufacturing Innovation Lab **Tempe, AZ**
Research Assistant **October 2021-May 2023**

- Conducted in-depth research, data collection, and statistical analysis using advanced methodologies, ensuring accuracy in experimental studies and supporting data-driven decision-making for scientific advancements.
- Designed and refined prototypes using CAD software and engineering principles, enhancing functionality, manufacturability, and performance to contribute to innovative research and development projects.
- Authored technical reports, research papers, and project documentation, summarizing key findings with precision while ensuring compliance with academic, industry, and regulatory standards.
- Worked with multidisciplinary teams to enhance experimental methodologies, streamline research processes, and develop innovative solutions that improved efficiency, accuracy, and research excellence.

Technical Skills

- **Languages & Software**: MATLAB, Python, LabView, Minitab, Excel Macros, PLM software, LabVIEW
- **Design & Analysis Tools**: AutoCAD, SOLIDWORKS, CATIA V5, Fusion 360, PTC Creo, Siemens NX, ANSYS, COMSOL Multiphysics, Abaqus, GD&T
- **Certification**: Autodesk CAD/CAM/CAE for Mechanical Engineer, Six Sigma Green Belt, Digital Manufacturing & Design Technology, Autodesk Generative Design, CAD and Digital Manufacturing

Education

Arizona State University, Tempe, AZ
Master of Science: Aerospace Engineering **August 2021-May 2023**

SRM Institute of Science & Technology (KTR), Chennai, India
Bachelor of Science: Aerospace Engineering **August 2016-May 2020**