Lakshya Tiwari

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Professional Summary

Mechanical Engineer with experience in advanced materials, mechanical design, and simulation. Proficient in CAD tools including SolidWorks, Creo, and AutoCAD, as well as programming in Python and MATLAB. Experienced in leading product development from initial concept to production, with a focus on practical efficiency, sustainability, and performance. Skilled in managing design documentation, working with cross-functional teams, and developing engineering solutions that meet regulatory standards and project goals.

Experience

BCVS Group Inc. (Contract) **Austin, TX**
Mechanical Engineer **September 2023-Present**
Smith & Nephew

- Created mechanical design concepts and detailed 3D CAD models in SolidWorks, improving structural performance and functionality across six product versions.
- Worked with internal teams and suppliers to apply DFM/DFA practices, lowering production costs by 18% and simplifying assembly.
- Used GD&T to ensure precision in component design, which improved assembly reliability and cut tolerance-related issues by 25%.
- Employed 3D printing and rapid prototyping to build and test early models, shortening design validation time by 30%.
- Led design reviews and risk assessments, helping identify and address design issues early and reducing post-launch revisions by 15%.

Baxter

- Maintained accurate Design History Files and supported device testing for FDA submission, contributing to a successful product launch.
- Led product development activities with a focus on design, quality, and testing, reducing development time by 20%.
- Managed PLM systems to control BOMs, track engineering changes, and maintain version history, improving team coordination and documentation.
- Wrote and executed test protocols, measurement system analyses, and fixture validations using DFMEA, PFMEA, and DMR documentation.
- Performed FEA, life cycle testing, and design reviews; applied Six Sigma and Lean tools to improve durability and reduce quality issues by 22%.

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

- Designed mechanical packer components in SolidWorks, using iterative modeling and testing to meet performance and geometry requirements.
- Created 3D CAD models and prototypes, ensuring they met manufacturing and quality standards through all development stages.
- Ran CFD simulations in ANSYS to evaluate system performance, resulting in a 25% improvement in efficiency under load conditions.

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

- Conducted research and data analysis for engineering experiments, using statistical methods to improve accuracy and repeatability.
- Designed and improved mechanical prototypes using CAD and core engineering principles to support functional testing and research.
- Worked with cross-disciplinary teams to streamline experimental setups, cutting preparation time by 15% and increasing output.
- Supported R&D efforts by evaluating new materials and technologies, contributing to early-stage design decisions and feasibility assessments.

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**