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# Lakshya Tiwari

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Austin, TX (C) 480-401-9636 (E) lakshyatiwari98@gmail.com | [GitHub](#) | [Portfolio](#)

## Professional Summary

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Results-driven Mechanical Engineer specializing in advanced materials, mechanical design, and simulations. Proficient in CAD tools (SolidWorks, Creo, AutoCAD) and programming (Python, MATLAB). Experienced in driving product development from concept to production, focusing on efficiency, sustainability, and performance. Skilled in leading cross-functional teams, managing design documentation, and delivering innovative, reliable engineering solutions that meet regulatory and project objectives

## Experience

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### BCVS Group Inc. (Contract)

Austin, TX

#### Mechanical Engineer

September 2023-Present

- Leveraged SolidWorks 2023 to develop and refine innovative mechanical designs, optimizing functionality, performance, and manufacturability while ensuring strict adherence to industry regulations and standards.
- Designed and optimized plastic molded components with a strong focus on structural integrity, manufacturability, and cost-effectiveness, utilizing Design for Manufacturing (DFM) and Design for Assembly (DFA) principles in collaboration with cross-functional teams and suppliers.
- Applied GD&T principles to ensure precise tolerances, manufacturability, and assembly integrity, enhancing product accuracy, reliability, and consistency throughout design and production processes.
- Developed mechanical design concepts and 3D CAD models using SolidWorks, ensuring FDA, ISO 13485, and GMP compliance to improve product quality, safety, and manufacturability.
- Authored and executed Test Protocols, Validations, and Gauge R&R studies, managing CAD assemblies, BOMs, and design modifications efficiently using PLM software for regulatory compliance.
- Collaborated with cross-functional teams to implement DFM and DFA principles, reducing production costs, cycle times, and inefficiencies while maintaining high-quality standards and performance.
- Ensured superior assembly fit and finish by meticulously addressing critical tolerances, material properties, and performance requirements to deliver high-quality, reliable, and high-performance mechanical products.
- Facilitated seamless product lifecycle management by maintaining design documentation, updating Bills of Materials (BOMs), and executing engineering change orders, ensuring regulatory compliance and efficient workflow integration.
- Conducted quality system initiatives such as Finite Element Analysis (FEA), simulation modeling, and life cycle testing to drive continuous product enhancements and ensure optimal durability, reliability, and regulatory adherence.
- Applied Six Sigma and Lean manufacturing methodologies to optimize mechanical design and production processes, achieving substantial improvements in product quality, operational efficiency, and overall 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

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- **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

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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