Siddharth Sriram Sikha

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EDUCATION

Texas A&M University   **Aug 2023 – Aug 2025**
Master of Science in Mechanical Engineering – GPA: 3.66/4.0, (TA Fall 24, Spring 25)   *College Station, United States*

Vellore Institute of Technology   **Aug 2019 – May 2023**
Bachelor of Technology in Mechanical Engineering – GPA: 3.9/4.0   *Vellore, India*

SKILLS

Core Design Tools: SolidWorks (CSWA), Siemens NX, Creo, Fusion 360, AutoCAD, GD&T (ASME Y14.5)
Simulation & Analysis: ANSYS Workbench (Static, Thermal, Modal), Abaqus, MATLAB, FMEA, SPC, Root Cause Analysis (RCA), Design for Manufacturability (DFM), Design for Assembly (DFA)
Programming & Documentation: Python (Data analysis, Automation), Mathcad, LaTeX, MS Office, Teamcenter, Windchill PLM, SAP

WORK EXPERIENCE

SLB (Schlumberger)   **May 2024 – August 2024**
Mechanical Engineering Intern, Completions Dept   *Houston, United States*
Project 1 – Load Cell Integration for Packer Testing
- Designed and integrated a custom load cell into a high-pressure hydraulic ram assembly (150 ksi) to replace a pressure transducer, increasing force measurement accuracy by 7%
- Developed 3D models and engineering drawings in CREO, resolving tolerance conflicts, validating load paths through design calculations, and optimizing the design for manufacturability under dynamic loading conditions
- Facilitated cross-functional design reviews and executed design FMEAs, leading to improved part placement and manufacturability with minimal assembly modifications

Project 2 – FEA-Based Optimization of Hydraulic Packer
- Performed structural optimization in ANSYS Workbench, reducing stress concentrations by 12% and improving part deformation by 3% through geometry refinements and mesh tuning
- Enhanced manufacturing reliability by cutting part defects by 11% and saving 4.5% in material costs; documented FEA workflows and results using GEMS and Windchill PDM for standardized knowledge sharing

Tecumseh Products   **May 2022 – July 2022**
Mechanical Design Intern   *Hyderabad, India*
- Automated condenser design workflows in Siemens NX, reducing drafting cycle time by 19% and improving team productivity by 17% through reusable templates and scripting
- Applied GD&T (ASME Y14.5) and tolerance stack-up analysis to high-precision HVAC components, integrating DFM/DFA principles to reduce rework and cut part count across assembly lines
- Designed and prototyped a thermoelectric cooling enhancement system using the Seebeck effect, improving heat-to-energy conversion by 11% and ensuring vibration isolation under dynamic conditions

Sensata Technologies   **May 2021 – July 2021**
Product Development Intern   *Hyderabad, India*
- Conducted market research across HVAC and heavy machinery sectors, engaging 20+ clients and creating technical datasheets and demo strategies for Sensata's IIoT pressure and temperature sensors, ensuring seamless Industry 4.0 integration

PROJECTS

Automated Test Fixture Design for Precision Machined Components – Fisher Engineering Design Center, Texas A&M University
- Designed and fabricated a multi-purpose test fixture using CNC machining (HAAS mill), enabling precise alignment and secure mounting of machined components for dynamic testing
- Integrated welded support structures and modular sheet metal covers for interchangeable sensor mounting and cable management, ensuring durability and safety during high-speed testing
- Applied additive manufacturing (FDM 3D printing) to prototype custom cable routing clips and sensor holders, reducing assembly time by 35% and improving signal integrity for data acquisition systems

Design Validation and Detailing of Centrifugal Pump Assembly – Texas A&M University, United States
- Designed and validated 3D models and 2D detailed drawings of a multi-stage centrifugal pump assembly using SolidWorks and AutoCAD, ensuring manufacturability and fitment per ASME Y14.5 standards
- Conducted tolerance stack-up analysis, corrected 10+ geometric inconsistencies, and streamlined BOM management, reducing shop floor change orders by 25%

Modular Fixture Design for HVAC Coil Assembly – Texas A&M University, United States
- Designed a modular fixture in SolidWorks to align HVAC coils with ±0.2 mm accuracy; reduced coil assembly cycle time by 30%
- Applied GD&T and DFM principles to reduce part count by 25% and improve changeover efficiency across three coil variants