

SRIVATSAV JOSUYLA

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EDUCATION

- M.S. in Mechanical Engineering**, University of Florida , Gainesville, FL **May 2025**
Course Work: Semiconductor Device Fabrication, Production Engineering, FEA, Composite Materials, Failure of Materials in Mechanical Design, Advanced Elasticity & Solid Mechanics, Energy Conversion.
- B.Tech. in Mechanical Engineering**, Osmania University, India **July 2021**

SKILLS

CAD & Simulation Tools: SolidWorks, Solid Edge, PTC Creo, AutoCAD, Fusion 360, ANSYS, Hyper Works.
Functional Knowledge: GD&T, Tolerance stack up analysis, DFMEA, DFM, Sheet Metal, P&ID, Root Cause Analysis.
Programming & Analytical: MATLAB, Python, MS Office.

PROFESSIONAL EXPERIENCE

Mechanical Engineer

Kwik Equip CGE, Pearland, TX

July 2025 - Present

- Perform **Acoustic Emission (AE) testing** and inspect SCBA cylinders to ensure structural integrity and regulatory compliance.
- Contribute to the design and development of in-house SCBA testing systems, including fixture design, P&ID creation, component selection, hardware integration, and documentation while pursuing **Level 1 AE certification**.
- Utilize **SolidWorks** to design, modify, and optimize trailer components and support structures for mechanical performance and manufacturability.

Mechanical Engineering Intern

Circularity Fuels, Redwood City, CA

August 2024 – January 2025

- Designed compact reactor in **SolidWorks** to produce ultra-high purity methane, optimizing catalyst supports.
- Developed and reviewed **P&IDs**, plumbing schematics, and mechanical layout drawings to reduce system footprint by 20%, ensuring clarity for cross-team execution and vendor fabrication.
- Prototyped corrugated catalyst structures to improve flow uniformity, achieving 20% better distribution efficiency.
- Analyzed reactor fluid flow and heat transfer, achieving 10% pressure drop reduction and improved thermal performance.
- Operated full-scale methanation reactor, recording temperature data across catalysts to analyze heat distribution.

R & D Mechanical Design Engineer

Medha Servo Drives Pvt Ltd, Hyderabad, India

September 2021 – September 2023

Project 1: Hydrogen Fuel Cell DEMU

- Designed a roof-mounted support structure for a hydrogen fuel cell's indirect cooling system, enabling efficient coolant-air heat exchange while ensuring structural integrity and manufacturability using **SolidWorks** and **ANSYS**.
- Executed design optimization strategies, reducing cooling system weight by 12%, improving structural efficiency.
- Conducted theoretical calculations to size the heat exchanger, estimate heat removal rates, and determine required airflow; developed system vs. fan performance curves for optimal cooling efficiency.
- Performed **Computational Fluid dynamics (CFD) and static structural analysis (FEA)** to evaluate airflow resistance and load-bearing capacity of the cooling structure under real-world operating conditions.

Project 2: Vande Bharath Express- TRAIN 18

- Designed and led end-to-end **product development lifecycle** of traction motor cooling air ducts, including detailed engineering drawings, DFMA reviews, stakeholder signoffs, and design release for manufacturing.
- Performed theoretical calculations to estimate pressure losses and required airflow for motor cooling; analyzed fan curves vs. system curves to optimize performance.
- Enhanced cooling efficiency by 15% using **CFD** modelling and theoretical flow analysis, ensuring optimal thermal regulation.
- Coordinated with vendors and fabrication shops to review technical drawings, resolve manufacturability issues, and ensure compliance with specifications during duct fabrication and assembly.
- Delivered 32 cooling ducts in 4 configurations, achieving functional validation and on-time handoff to manufacturing.

RELEVANT PROJECTS

Mechanical Design Engineer

UF Institute of Food and Agricultural Sciences, Gainesville, Florida

January 2025 - July 2025

- Designed modular electro-mechanical growth chambers with integrated thermal, lighting, and humidity control for agricultural automation.
- Developed custom enclosures and mounting systems using **SolidWorks**, ensuring thermal isolation and easy serviceability.
- Integrated multi-parameter control systems with a focus on thermal efficiency and structural stability.
- Architected a modular design for eight independent chambers, enabling scalable mechanical integration.