# KRISHNA VAMSHI VEMURI

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## EDUCATION

**Master Of Science, Mechanical Engineering** **May 2025**
Arizona State University, Tempe GPA:4.0/4.0

- Awarded MORE scholarship for research in Manufacturing and Sustainability.

**Bachelor of Technology, Mechanical Engineering** **July 2022**
Mahatma Gandhi Institute of Technology, Hyderabad, India GPA:3.80/4.00

- Gold Medalist (Jawaharlal Nehru Technological University) and Best Outgoing Student (2018-2022).
- Department Topper (2019, 2021).

## TECHNICAL SKILLS

CAD Software: SolidWorks, CATIA-V5, Fusion360, AutoCAD, GD&T, DFM, DFA

Simulation Tools: ANSYS (Mechanical, Thermal), COMSOL, MATLAB

Manufacturing and Process Optimization: Additive Manufacturing (FDM, PBF, DIW), 3D Printing, CNC Machining, Statistical Process Control (SPC), Six Sigma (Green Belt), Lean Manufacturing

## PROFESSIONAL EXPERIENCE

**CYIENT, Hyderabad - India | Design Engineer** **November 2022 - April 2023**

- Utilized CATIA-V5 and AutoCAD to automate design review process, improving efficiency by 40% and reducing errors by 15%.
- Executed innovative strategies to streamline creation, quality check, and delivery of 2D mechanical production drawings.
- Delivered accurate assembly drawings for rail components, ensuring seamless integration with existing systems and minimizing errors by 10%.

**Edgeforce Solutions Pvt.Ltd - Hyderabad, India | R&D Engineer** **March 2022 - November 2022**

- Designed detailed parts and products using Fusion360 and SolidWorks, reducing manufacturing errors by 15%.
- Created accurate CAD models for defense-related products, contributing to a 20% increase in project success rate.

**KIRBY Building Systems, Hyderabad, India | Intern** **October 2021 - November 2021**

- Conducted a comprehensive review of 5 industrial manufacturing processes at Kirby Building Systems including sheeting, Hole-Punching, Box Beam rolling, and upright rolling and collaborated with team members to establish understanding of production procedures.

## PROJECT EXPERIENCE

**Thermo-Mechanical Analysis of Solder Joint in 3D Chiplet Package**

- Designed and simulated a 3D chiplet model using SolidWorks and ANSYS Workbench, reducing thermal hotspots by 25% through optimized pitch gap and height.
- Conducted parametric analysis on solder joint dimensions, improving thermal dissipation efficiency by 30% and decreasing stress concentration by 20%.
- Validated simulation results with experimental data, achieving 95% accuracy in predicting thermal fatigue and failure mechanisms.

**Finite Element Analysis of Thermal Dynamics in Fusion Deposition Modeling**

- Developed an FEA model in ANSYS to simulate thermal behavior in FDM processes, obtaining 95% accuracy in temperature profile predictions.
- Optimized print bed and nozzle temperatures, improving layer bonding strength by 15% and decreasing warping by 20%.
- Conducted material analysis for ABS and PET, identifying optimal conditions for thermal performance and material integrity.

**Design of Rocket Motor Static Test Pad (STP)**

- Designed and optimized a rocket motor test platform using SolidWorks and Fusion360, achieving a 25% reduction in weight while maintaining structural integrity.
- Conducted stress analysis and simulations to ensure compliance with STAR Labs specifications, reducing design iterations by 30%.

**Powder Bed Fusion (PBF) Additive Manufacturing Simulation**

- Simulated laser-based powder bed fusion processes using COMSOL, optimizing laser power and scan speed to reduce thermal stress in Aluminum 6063 and Steel AISI 4340 by 25%.
- Conducted thermal and mechanical analysis of melt pool characteristics, improving layer adhesion and cut down porosity by 20% in printed parts and validated simulation results with experimental data, attaining 90% accuracy in predicting temperature distribution and material behavior.

## LEADERSHIP EXPERIENCE

**Student Convenor, NATIONAL SYMPOSIUM - MGIT** **June 2022 - July 2022**

- Led a 60-member team to organize a national symposium, increasing sponsorships by 100% through effective negotiation and project management & coordinated logistics, schedules, and resources, ensuring seamless execution of the event.