

# NISHITA VIJAY KRISHNA

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## SUMMARY

Mechanical Engineering graduate (May 2025) with applied expertise in CAD design (SolidWorks, AutoCAD), engineering simulation (ANSYS FEA, CFD), and manufacturing processes including CNC machining, sheet metal fabrication, and additive manufacturing. Experienced in developing and validating mechanical components through 3D modeling, tolerance analysis, and simulation-driven design. Proficient in generating engineering drawings, creating BOMs, and optimizing designs for manufacturability and production. Strong foundation in thermal-fluid systems, mechanical assembly, and design documentation aligned with industry standards.

## EDUCATION

<b>Master of Science in Mechanical Engineering</b> Ira A. Fulton School of Engineering, Arizona State University, Tempe, AZ	<b>Aug 2023 – May 2025</b> GPA: 3.20
<b>Bachelor of Technology in Aeronautical Engineering</b> Malla Reddy College of Engineering & Technology, India	<b>Aug 2018 – Jun 2022</b> GPA: 3.8

## TECHNICAL SKILLS

- **CAD & Design Tools:** SolidWorks (Assemblies, Sheet Metal, Weldments), AutoCAD, GD&T, Tolerance Analysis
- **Simulation & Modeling:** ANSYS (Thermal & Structural FEA), MATLAB, CFD (Fluent), Dynamic System Modeling
- **Mechanical Systems:** Fluid Routing, Thermal Management, Component Packaging, HVAC, Heat Exchanger Design
- **Manufacturing & Fabrication:** 3D Printing, CNC Machining, Sheet Metal Processing, DFM/DFA Principles
- **Testing & Instrumentation:** Sensor Integration, Test Bench Setup, Multimeters, Data Logging, Hands-on Prototyping
- **Software:** MS Office, C, C++, Python (Basic), COMSOL.
- **Soft Skills:** Team Collaboration, Technical Communication, Rapid Learning, Problem Solving, Agile/Iterative Workflows

## PROJECT EXPERIENCE

### Autonomous Hydroponic System – Space Farming Application

- Engineered robotic systems for crop monitoring and soil parameter control.
- Designed mechanical assemblies in SolidWorks; developed control algorithms using MATLAB.
- Integrated thermal sensors and actuator systems for real-time response and optimization.
- Mimicked systems for isolated and marine-like environments — relevant to Arc’s electric marine mission.

### Advanced Semiconductor Packaging for EV Power Efficiency

- Investigated compact power delivery and thermal management challenges in electric vehicles.
- Applied FEA methods to evaluate material performance under temperature and space constraints.
- Gained insight into heat transfer, insulation, and failure analysis—critical to marine EV propulsion systems.

### Laser Powder Bed Fusion (LPBF) – Additive Manufacturing Research

- Analyzed stress behavior, porosity, and dimensional deviations in LPBF-manufactured parts.
- Explored multi-laser configurations and in-situ monitoring to improve surface quality and reliability.
- Gained understanding of metal component performance under dynamic marine load profiles.

## CERTIFICATIONS

Lean Six Sigma White Belt - CSSC, SolidWorks: Sheet Metal- LinkedIn, Designing for 3D Printing with Fusion 360 - Udemy, Digital Manufacturing & Design- the State University of New York.

## EXPERIENCE

<b>Cognizant Technology Solutions   Program Analyst Trainee</b>	<b>Dec 2022 – Jul 2023</b>
<ul style="list-style-type: none"><li>• Supported data pipelines and cloud platforms for a U.S. healthcare client.</li><li>• Contributed to diagnostics, documentation workflows, and operational efficiency gains.</li></ul>	
<b>Cenaura Technologies   Research Assistant</b>	<b>Jan 2022 – Apr 2022</b>
<ul style="list-style-type: none"><li>• Contributed to electromechanical product research in smart-farming systems.</li><li>• Supported testing, mechanical subsystem integration, and cross-functional collaboration.</li></ul>	

## ADDITIONAL EXPERIENCE

- Comfortable working in fast-paced team settings, Excellent documentation and presentation skills.
- Experience in thermal-fluid component sizing, pump curve analysis, and routing diagrams.
- Strong interest in clean propulsion systems, fluid dynamics, marine design, and EV integration.