SATHIYANARAYANAN M

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EDUCATION

Bachelor of Mechanical Engineering, Vellore Institute of Technology, Chennai, 9.07 CGPA (untill third semester) 2023- 2027

Higher secondary CBSE, Kamala Niketan, Tiruchirapalli , 73% 2021- 2023

SKILLS

CAD & Simulation Tools: Solidworks (CSWA Certified), AutoCAD, SimScale, Ansys, Carla, Matlab

Additive Manufacturing: FDM, SLA, SLS, Print Optimization, Post-Processing & Troubleshooting

Programming & Development: Python, Java, HTML, CSS, JavaScript, Github (Version Control)

Multimedia & Design: Adobe After Effects, Adobe Premiere Pro, Canva

Course Work: Engineering Mechanics, Thermal engineering systems, Fluid mechanics, Automotive Vehicles

Soft Skills: Leadership, Time Management, Team Spirit, Effective Communication, Flexibility, Problem Solving.

WORK EXPERIENCE

Additive Manufacturing Intern | SEDAXIS Advanced Materials Pvt Ltd. Jan 2025 – Present, *Chennai, India*

- Acquired hands-on expertise in industrial 3D printing (**FDM**, **SLA**, **SLS**), including calibration, material selection, and machine operation.
- Mastered support structures (supports, skirts, brims) and print optimization for dimensional accuracy and minimal material waste.
- Performed quality validation using benchmark models like 3D Benchy and torture tests to assess printer capabilities (bridging, overhangs, tolerances).
- Troubleshot real-world printing defects (warping, layer adhesion) to refine rapid prototyping workflows.

Technical Team Member | CAD Club, VITC. Sep 2024 – Present, *Chennai, India*

- Assisted fellow students in 3D modeling, design principles, and CAD software for academic and personal projects.
- Conducted peer-led workshops to teach junior members fundamental and advanced modeling techniques, improving their technical proficiency.
- Collaborated on cross-disciplinary projects, providing CAD support to engineering and design teams to enhance project outcomes.

PERSONAL PROJECTS AND PROJECTS

Oblique Wing Aircraft (OWA): A Comprehensive Review of Design and Performance, Aerodynamic Innovations and Prospects for the Future (October 2024 - Present) Link

- Conducted a comprehensive review of oblique wing aircraft (OWA), analyzing their unique design, aerodynamic performance, and historical evolution.
- Investigated cutting-edge advancements in aerodynamics, focusing on drag reduction, stability improvements, and efficiency gains for enhanced flight performance.
- Evaluated future applications of oblique wing technology in commercial and military aviation, identifying potential breakthroughs and operational advantages.

ACHIEVEMENTS & EXTRA-CURRICULAR ACTIVITIES

- Was one of the active leads of **Diseno**, a technical team, which conducts various technical and non-technical events during TechnoVIT25' (VIT's Tech fest) and led the team to several awards. Link
- **DeepDrive Auto Challenge - Runner-Up**
  Designed an autonomous vehicle in CARLA simulation software using python, achieving high performance.
- **Havoltz 25' Hackathon (Mechanical Engineering Track) - Winner** Link
  Designed a suspension system meeting constraints on load management and spring dimensions, securing first place.
- **Reimagine 25' (CAD Modeling) - Winner**
  Achieved 99.65% mass accuracy in a 3D CAD modeling challenge, exceeding precision expectations.
- **Design Master CAD - Winner**
  Designed a compact, energy-efficient book-insertion machine using SolidWorks, optimizing affordability and ease of use for small-scale operations in a collaborative IEEE RAS challenge. Link