

SOWJANYA YELLURIPATI

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Professional Summary

Detail-Oriented Mechanical Engineering student with a proven track record in 3d-designing, modeling, and analysis. Adept at leveraging advanced simulation and design tools such as ANSYS, AutoCAD and SolidWorks. Skilled in coordinating cross-functional teams, maintaining project timelines, and delivering results that align with strategic objectives. Seeking an opportunity to leverage my skills to drive innovation and success to an organization.

Key Qualities

- Proven Leader
- Focused on Results
- Analytical Thinker
- Technical Presentation

Domain Knowledge

- CFD
- FEA
- ANSYS (Fluent, Workbench)
- Microsoft Office (Excel, Word, PPT)
- Creo
- AutoCAD
- SolidWorks
- 3D – Printing (Ultimaker cura)
- MATLAB
- C Programming
- Tecplot 360
- 3D CAD Design

Work History

Center for Innovation through Visualization & Simulation (CIVS)

Purdue University Northwest

Graduate Research Assistant

05/2023 - Current

- Conducted research on CFD analysis utilizing of waste plastic particles, syngas, hydrogen as alternative fuels in an ironmaking blast furnace.
- Performed literature studies to analyze the latest trials related to chosen project topic.
- Used 3D- CAD design tools to create detailed designs and Ansys Fluent to run simulations for 3d-Analysis.
- Analyzed simulation data and troubleshooted issues to optimize processes and establish new simulations to assist in solving important research questions.
- Collaborated with industry partners to ensure alignment on project goals and progress.
- Developed comprehensive project plans, outlining timelines, deliverables, and responsibilities.
- Presented project updates and results to industry partners, demonstrating successful outcomes and adherence to specifications.
- Presented findings at AIST and PNW Days of Discovery, discussing the reduction of CO₂ emissions in steel production through integrating waste plastic particles and syngas.
- Awarded a Graduate Research Grant by the Graduate Studies Office of PNW for the 2024-25 Academic Year

Purdue University Northwest

Graduate Teaching Assistant

01/2023 - 08/2023

- Evaluated student assignments, providing constructive feedback for improvement and adapting teaching methods to diverse learners.
- Assisted professor in creating lesson plans and sourcing course-related resources.
- Developed leadership and communication skills through active teaching and mentorship roles.

Indian Railways

Student Intern

07/2021 - 08/2021

- Studied Design and Manufacturing – Air Brake System assemblies.
- Studied Design and Manufacturing – Chassis Suspension and Sub- Assemblies for Railway Coaches
- Performed process evaluations, time studies, simulations, and quality control documentation.

Ethical Edufabrica Sponsored by IIT

Design Intern

08/2020 - 09/2020

- Studied and practiced AutoCAD interface and commands
- Worked on Generative design of Formula-1 car body using AutoCAD.
- Created both 2D drawings and 3D models, attended training sessions to enhance drafting skills and expand design capabilities.

Education

Purdue University Northwest

Expected in 12/2024

- **Master of Science in Mechanical Engineering**

SVIT- Jawaharlal Nehru Technological University

08/2018 - 08/2022

- **Bachelor of Technology in Mechanical Engineering**

Academic Projects

Hydrogen Production Techniques & Techno-economic Aspects

- Conducted techno-economic analysis of hydrogen production techniques, evaluating economic feasibility and sustainability.
- Conducted data analysis to identify market trends, customer preferences, and business opportunities.
- Created detailed reports and presentations to communicate findings through a paper and seminar, highlighting the cost-effectiveness and scalability of recommended hydrogen production methods.

Additive Manufacturing

- Designed using On-shape and Autodesk Inventor to develop innovative prototypes.
- Collaborated with a team to refine designs, troubleshoot issues, and enhance product strength.
- Utilized UltiMaker Cura for 3D printing, performing tensile tests to assess stress distribution and performance.
- Presented project results and process through comprehensive reports and a presentation.

Volunteer Experience

Volunteer, Kalam Bharat - NGO Program by Kalam Centre

- Instructed high school students on contemporary developments in science and technology.
- Conducted medical awareness sessions.
- Facilitated the establishment of a library and provision of sports equipment.

Event Coordinator and Class Representative - Undergraduate University

- Organized and managed various technical and cultural events, ensuring smooth execution and adherence to timelines.
- Represented the interests and concerns of classmates to faculty.
- Collaborated with student body and university staff to enhance campus community engagement.
- Coordinated with the Training and Placement Cell, managing, organizing, communicating with companies and students for placement.