SYAM BABU KANDELLI – Portfolio

Welcome to my technical portfolio. I specialize in **NLP**, **agentic workflows**, and **data engineering**.
This notebook showcases selected projects, my approach, and technical expertise.

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Education

- **PG Program in Data Engineering** – NIELIT Chennai
- **B.Tech in Mechanical Engineering** – IIT (ISM) Dhanbad (2018–2023)

Technical Skills

- **Programming**: Python, SQL, R (familiar), Java (familiar)
- **Software**: Autocad, Solidworks (familiar), Matlab-Simulink (familiar), ANSYS
- **Tools**: Linux, PLC, Jupyter, VS Code
- **Domains**: Mechanical Design, Simulation, Data Engineering

Project: Composite Materials Analysis with ANSYS

Objective: Analyze failure points in Carbon/Epoxy composites under pinned joints.
Tools Used: ANSYS Workbench
Highlights:

- Simulated stress distribution and failure zones
- Compared different joint configurations
- Presented findings in technical review sessions

Project: Portable Holder for Cutting/Grinding Machine

Objective: Design a vibration-absorbing holder to improve safety and usability.
Tools Used: Solidworks, Autocad
Highlights:

- Created 3D models and stress simulations
- Focused on ergonomic design and portability
- Proposed improvements for industrial use

Achievements

- 🏆 Winner – Lever the Huge, Inter-IIT Tech Meet 2021
- 🥈 2nd Runner-up – Model The Caravel, Concetto 2018

Positions of Responsibility

- Teacher – Kartavya NGO (Mathematics instruction)
- Organizer – Black Knight Chess Club, IIT (ISM)
- Event Coordinator – Srijan 2020, Concetto 2019

About Me

I'm a hands-on learner with a strong foundation in mechanical systems and data engineering. I enjoy solving real-world problems through design, simulation, and structured analysis. This portfolio reflects my academic journey and technical growth.

Thank you for reviewing my work.

Simulation Setup

- Material: Carbon/Epoxy
- Load: 500N axial tension
- Boundary Conditions: Fixed at one end, pinned joint at the other

```
load_description = "Load: 500N axial tension"
print(load_description)
```

```
Load: 500N axial tension
```

```
from IPython.display import Image, display

# Intro text
print("SYAM BABU KANDELLI – Portfolio\n")
print("Welcome to my technical portfolio. I specialize in NLP, agentic
workflows, and data engineering.")
print("This notebook showcases selected projects, my approach, and
technical expertise.\n")
print("📧 Email: syam.18je0391@mech.iitism.ac.in")
print("🔗 LinkedIn: https://www.linkedin.com/in/syam-babu\n")

# Display graduation image
display(Image(filename=r"C:\Users\syamb\Pictures\ism\grad1.JPG"))
```

```
SYAM BABU KANDELLI – Portfolio
```

```
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```

One challenge was modeling the joint stress accurately. I experimented with mesh density and boundary conditions until the results stabilized. This taught me the importance of iterative testing in simulation workflows.

Summary of Skills Demonstrated

- Mechanical simulation and design
- Technical documentation and presentation
- Problem-solving under constraints
- Hands-on experience with ANSYS and Solidworks