PRADYUMNA BADA

pbada2@illinois.edu | (217) 200-3976 | Portfolio | LinkedIn | Github | Urbana, Illinois

EDUCATION

University of Illinois, Urbana - Champaign | GPA 3.8/4 **May 2025**
Master of Science, Advanced Analytics
Coursework: Data Visualization, Data Mining, Machine Learning, Predictive Analytics, Big Data Analytics, Operations Research

JSS Science and Technology University | GPA 8.5/10 **Nov 2020**
Bachelor of Engineering, Industrial Engineering
Coursework: Operations Research, **Statistical Quality Control**, Advanced Calculus, Linear Algebra, C Programming, Metrology

SKILLS

Programming: Python, SQL, C Programming, PostgreSQL, AWS, NoSQL, MongoDB, **GITLAB**, Flask API, Django, Azure, **Jenkins** .
Data Science: **Power BI**, Tableau, Excel, Pandas, Numpy, Matplotlib, Seaborn, Alteryx, PySpark, Databricks, Statistical Methods.
Other Skills: Power Query, **Failure Analysis**, Workflow Diagrams, Hypothesis Testing, **JIRA**, Web Scraping, Strategic Planning.

PROFESSIONAL EXPERIENCE

Seagate Technology | Data Analyst Intern **May 2024 – Aug 2024**
- Implemented ETL pipeline to process and analyze high-volume data for characterizing emerging memories (FeRAM).
- Developed predictive models for **failure** metrics, including Bit Error Rates, to ensure memory systems met reliability thresholds.
- Designed **Python**-based linter to validate YAML configurations, leveraging testers' domain expertise to reduce lengthy test re-runs.
- Developed unit tests using **Pytest** & integrated them into GitLab and **Jenkins** CI/CD pipelines, streamlining agile development.

Cline Center for Advanced Social Research | Research Assistant **Sep 2023 - Present**
- Engineered data pipelines to extract & analyze information from unstructured news articles, tracking police use of lethal force.
- Specialized in data cleaning, analysis, schema design, & DML. Built a national dashboard (Link) using MySQL & Power BI.
- Reduced manual data processing time by 67% (from 120 to 40 hours per week), enhancing accuracy & streamlining workflows

RailTEC at Illinois | Summer Research Intern **May 2023 - Aug 2023**
- Implemented an automated railway track inspection process by leveraging data analysis and LRAIL, an AI-based system.
- Utilized Databricks, Azure Synapse, & PySpark to analyze periodic data for tracking and forecasting rail component health.
- Developed data visualizations using Power BI and Python, delivering actionable insights for decision-making.

Sapiens International Corporation | SQL Developer **Mar 2021 - Nov 2022**
- Enhanced our Insurtech product using SQL & ETL, which helped companies administer legacy Insurance products.
- Developed reporting interfaces using SQL and Shell Scripting, including 'ECASS', a cache facility designed for client's actuarial team.
- Crafted complex SQL scripts for data fixes and collaborated with cross-functional teams to resolve high-priority data issues.

ACADEMIC PROJECTS

Predictive Maintenance of Milling Machine | Tools: Python, Jupyter Notebook, Scikit-learn.
Goal: To predict milling machine failures using real-time performance measures and features to ensure continuous production.
- Developed and compared different ML algorithms using Grid Search CV to achieve an accuracy of 97%.

Internal Stress Prediction in Shape Memory Alloys (SMAs) using DeepONet | Tools: Python, DeepXDE, SciPy
Goal: Predict internal stress in SMAs under deformation using data-driven and physics models.
- Hybrid DeepONet and PINN model predicts stress in SMAs from strain while enforcing elasticity physics constraints.

Stock Price Forecasting Using News Sentiment Analysis | Tools: Python, Streamlit, Prophet
Goal: Develop an interactive web app to forecast stock prices by integrating sentiment analysis of financial news.
- Used a pretrained model for sentiment analysis and Prophet for forecasting, delivering a dynamic dashboard with real-time plots.

Displacement and Strain Measurement using Computer Vision | Tools: Python, Pytorch, TorchVision.
Goal: To harness AI for the precise measurement of displacement and strain in objects under load, facilitating real-time monitoring
- Developing CNNs, and other DL models to detect displacement between pair of speckle images.

LEADERSHIP & INVOLVEMENT

- Ensured timely meal service for hundreds of students daily through food servicing, dish cleaning, and table sanitation.
- Led the development team in resolving high-priority production issue in the absence of senior team members.
- Completed certification courses like Applied Machine Learning, Applied Plotting & Data Representation in Python, and more.
- Organized multiple treks to the Great Himalayan Ranges for groups of more than 10.
- Collaborated on creative projects, including short films & travel vlogs. Video1, Video2, Video3, Video4,