

PRADYUMNA BADA

(US Work authorization - Sponsorship needed for STEM OPT)

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, **Industrial Engineering** - Advanced Analytics

Coursework: Data Mining, Machine Learning, Big Data Analytics, Data Visualization, Operations Research, Network Optimization

JSS Science and Technology University | GPA 8.5/10

Nov 2020

Bachelor of Engineering, Industrial Engineering

Coursework: Operations Research, Statistical Analysis, Linear Algebra, Data Programming, Statistical Quality Control, Calculus

SKILLS

Industrial Engineering: Demand Forecasting, **Supply Chain Management**, Workflow Optimization, Hypothesis Testing, Automation.
Data Analytics: **Python**, SQL, Excel, Power BI, **Tableau**, Pandas, Numpy, Matplotlib, **Seaborn**, Databricks, Data Lake, ETL Processes.
Other Skills: Scikit-Learn, Web Scraping, Scraping Tools, Data Storage Systems, Azure OpenAI Studio, Lucid Charts, Data Visualization.

PROFESSIONAL EXPERIENCE

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.
- Optimized manual processing time by 67% (from 120 hours to 40 hours per week), enhancing accuracy & streamlining workflows.
- Developed workflows with MongoDB & MySQL for data ingestion & dashboard design in Power BI ([Link](#)).

Seagate Technology | Engineering Data Analyst Intern

May 2024 - Aug 2024

- Implemented ETL pipelines to process and analyze high-volume data for characterizing emerging memories (FeRAM).
- Designed a Python-based workflow to extract data from PostgreSQL db, transform it using PySpark, & generate automated reports.
- Developed predictive models for failure metrics, including Bit Error Rates, to ensure memory systems met reliability thresholds.

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 forecasting and monitoring rail component health.
- Developed Flask-based REST API endpoints and Power BI dashboards to analyze and visualize data effectively.

Sapiens International Corporation | SQL Developer

Mar 2021 - Nov 2022

- Enhanced our Insurtech product using Oracle 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.

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%.

Predictive Modeling for Failure Prevention in Scania Truck Air Pressure System (APS) | Tools: Python, GitHub, MICE

Goal: Develop a cost-based model to predict and minimize failures, considering the costs of unnecessary checks & breakdowns.

- Performed EDA, & data imputation to develop various ML models, including LR, KNN, DT, RF & used Grid Search CV to compare it.

Supply Chain Inventory Optimization Using ML | Python, Pandas, Scikit-learn, Plotly

Goal: To optimize inventory levels by predicting the demand for products using machine learning models.

- Analyzed historical sales data, developed forecasting models using regression to recommend optimal inventory decisions.

Improving Productivity and Energy Efficiency of a Packaging Industry | Tools: 5S, Optimization.

Goal: Implement 5S methodology to enhance production flow, safety, reduce cycle times, and operational costs.

- Led time study in packaging industry, optimizing processes to eliminate bottlenecks, boosting daily output by 500 boxes.

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](#),