

Abhigna Reddy Musku

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SUMMARY

Professional with experience in Machine Learning, LLMs, Analytics, and Project Management. Exploring how to build AI products that demonstrate value while considering safety/policy implications.

EXPERIENCE

Analytics Developer (Health, Safety & Environmental)

Mar 2025 - Present

International Paper, Memphis

- Created **Data Pipelines, Data Flows** and Tables in **Microsoft Fabric** & worked on data transformations using PySpark and Python to build systematic data Infrastructure for the HSE division.
- Created a comprehensive project scoping document and built an ML classification model using **BERT** embeddings with **XGBoost**.
- Analyzed safety event data and performed correlation Analyses between variables. Developed **PowerBI** dashboards to visualize findings and **presented insights to business stakeholders**.
- Developed an **Actionable Project Tracker** to monitor multiple projects and provide high-level overview of priorities for the team.
- Partnered with cross-functional stakeholders to gather business requirements and translate to technical solutions.

Data Analytics and Project Management Intern (Environmental, Health, Safety & Security)

Sep 2023 - Jan 2024

Tesla, Austin

- Conducted **ad-hoc analysis** and utilized **NumPy, Pandas** libraries in python to conduct in-depth data analysis of safety events.
- Employed **Matplotlib, Seaborn, PowerBI** and **MS Excel Charts** to create visualizations and **dashboards** of the analysis.
- Presented findings to the management, which contributed to successful funding of \$X Million, to establish Safety Protocols.
- Developed a **process from ground up** to automate Job Hazard Analysis (JHA) documentation, which reduced creation time by **80%**.

SAP Functional Consultant / Analyst (Materials Management)

Jun 2021 - Sep 2022

Kagool, India

- Conducted System Integration Testing and Unit Testing to validate **inventory levels** and ensure successful integration between SAP backend and Fiori, which reduced manual data entry in cadent systems significantly.
- Created and maintained **Master Data** of materials, vendors, customers within **SAP ECC** and **SAP S/4 Hana**.
- Collaborated with cross functional teams and stakeholders to gather business requirements and translate to technical solutions.

ACADEMIC RESEARCH EXPERIENCE

Machine Learning Research Assistant [[Large Language Models for Sentiment Analysis Tasks](#)]

Mar 2024 - Aug 2024

Northeastern University, Boston

- Leveraged **Regular expressions, NumPy, Pandas in Python** to develop structured datasets from unstructured financial data.
- Leveraged parameter efficient fine-tuning methods like **QLoRA** and **LoRA** for model optimization and finetuning **Llama 3**.
- Continuously **analyzed and optimized model performance** through **k-fold cross-validation, hyperparameter tuning, L2 regularization** and **adjusted training data** which resulted in significant accuracy improvements for sentiment analysis tasks.

PROJECTS

Wiseblock - AI Powered Distraction Blocker & Planner (Product Development for Engineers)

- Worked on **Ideation**, conducted **Market Research**, & developed **Market Spec, Product Spec, and DFMEA** for the product.

Multi Class Classification of Dry Beans (Machine Learning) [\[LINK\]](#)

- Created a **comprehensive technical report** for a project on developing **ML models** (LR, SVM, Neural Networks) from scratch.

SKILLS

Programming Languages: Python, SQL

Software/ Frameworks: Microsoft Fabric, PowerBI, MS Office Suite, Google Workspace, SharePoint, SAP ECC

Databases/Developer tools: MySQL, SQL Server, PostgreSQL, Git, VS Code, Jupyter, GitHub Copilot

Libraries: Numpy, Pandas, Scikit-Learn, PyTorch, Transformers, Snorkel, Spacy, re, Matplotlib, Seaborn

Product Development: Market Research, Ideation, Business Canvas, Market Spec, Product Spec, Risk Analysis

Machine Learning: Linear Regression, Logistic Regression, SVM, PCA, Decision Trees, K Means, KNN

EDUCATION

NORTHEASTERN UNIVERSITY, BOSTON

Sep 2022 - Aug 2024

Master of Science in Industrial Engineering (Data Science and Analytics Focus)

CGPA: 3.8/4.0

Coursework: Machine Learning, MLOps, Product Development, Database Management, Project Management, Simulation Analysis

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI - HYDERABAD CAMPUS

Aug 2017 - May 2021

Bachelor of Engineering in Mechanical Engineering (Finance Electives)

EXTRA CURRICULARS

Volunteer and Meditator (Vipassana) -Meditator & Served as a volunteer by supporting logistics & maintenance tasks.