Hema Manasi Potnuru

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SUMMARY

Driven by curiosity and impact, I turn raw data into meaningful solutions. With experience building machine learning models, automating ETL pipelines, and designing insightful dashboards, I bring a full-spectrum data skillset powered by Python, SQL, and cloud technologies across healthcare, finance, and legal domains.

EDUCATION

Indiana University, Bloomington **Aug 2023 – May 2025**
Masters in Data Science; CGPA: 3.6 *Bloomington, Indianapolis*

National Institute of Technology Agartala **Aug 2019 – May 2023**
Bachelors of Technology in Computer Science; CGPA: 3.42 *Agartala, India*

PROFESSIONAL EXPERIENCE

MyEdMaster LLC **May 2024 – Present**
Data Scientist *USA*

- Conducted comprehensive data analysis, designing SQL queries to extract and pre-process datasets for AI-driven health software intervention, improving predictive accuracy by 20%. Developed and maintained reporting dashboards to track health outcomes, utilizing tools like Power BI and Tableau for data visualization and presenting insights to stakeholders.
- Understanding client requirements and created custom reports and dashboards for healthcare data analysis.

Broadridge **Jan 2023 – July 2023**
Software Developer *Banglore, India*

- Designed and executed automated test cases for Good Till Date (GTD) orders, leveraging Modern C++ and Tbricks App API to validate trading functionality across diverse scenarios, reducing manual testing efforts.
- Resolved critical bugs and enhanced functionality by analyzing and improving instrument grouping logic across multiple markets, contributing to the optimization of automated trading systems.

PUBLICATIONS

U-Net Deep Neural Network-Based Landslide Detection Method - *link* **February 2021 - March 2023**

- Designed a deep neural network model using the U-Net architecture, achieving 91.12% accuracy in landslide detection by leveraging multispectral satellite imagery from the Landslide4Sense dataset, which significantly improved model performance and enhanced precision and recall in hazard prediction.
- Assisted in feature engineering and optimization using techniques like image segmentation, binary cross-entropy, and NDVI analyses that enhanced landslide detection which significantly reduces false positives when monitoring in real time.

ACADEMIC PROJECT EXPERIENCE

Redaction Analysis System for Legal Documents | *Research Assistant @ IU* **December 2023 - Present**

- Developed a machine learning system to detect and analyze redactions in legal documents, by designing pipeline for data extraction and a PostgreSQL database to store and query redacted content, ensuring enhanced data privacy and security.
- Collaborated with cross-functional teams to explain system functionality, integration strategies, and optimization efforts, aligning with security and data governance standards.

Reddit Data Pipeline Engineering | *AWS End to End Data Engineering* **December 2024**

- Developed an end-to-end ETL pipeline using AWS Glue, Athena, and PostgreSQL, automating Reddit data extraction, transformation, and loading into Amazon Redshift for analytical purposes.
- Designed and maintained comprehensive KPIs for real-time monitoring of pipeline performance, ensuring data accuracy, timely ingestion, and enabling identification of bottlenecks to support efficient data processing and business reporting.

Stock Price Prediction | *Python, Machine Learning, Power BI* **August 2024**

- Developed a robust stock price prediction system using advanced machine learning models like ARIMA, SARIMA, and CatBoost, achieving high accuracy in forecasting trends through comparative model analysis.
- Engineered a dynamic data pipeline to import and process real-time stock data from Yahoo Finance, performing data cleaning, feature engineering, and preprocessing to ensure high-quality inputs for predictive modeling.
- Designed interactive dashboards in Power BI to visualize stock performance using candlestick, line, and area charts, enabling traders to identify trends, trade signals, and portfolio performance with actionable insights.

TECHNICAL SKILLS

Programming Languages: Python, SQL, R, JavaScript, C, C++, C#
Database & Cloud Platforms: MySQL, PostgreSQL, MongoDB, NoSQL AWS (Aurora, Athena, Redshift), Azure SQL
Data Engineering & Big Data Tools: Apache (Spark, Airflow), Pandas, PySpark, Hive, Hadoop, Pig, RESTful APIs
Data Visualization: Power BI, Tableau, Streamlit, Gephi, Matplotlib, Seaborn, Plotly, Excel
Machine Learning & AI: Neural Networks, TensorFlow, LLMs, NLP, Azure OpenAI