HEMA MANASI POTNURU
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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*

TECHNICAL SKILLS

Languages: Python, SQL, C++, C#, R, JavaScript
Database & Systems: MySQL, PostgreSQL, MongoDB, AWS, Azure SQL
Data Visualization: Power BI, Tableau, Matplotlib, Seaborn, Plotly, AWS Athena, Redshift
Research Support: Data Scraping, analysis and visualization, Machine learning, LLM, Azure Open AI, Neural Networks
Tools & Frameworks: Git, Docker, Jupyter, Apache Hadoop, Apache Spark, RESTful APIs, TensorFlow

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 KPI's for monitoring the performance of the pipeline, enabling optimized data processing and 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.

LEADERSHIP / EXTRACURRICULAR

- Functioned as the coordinator and team leader at Sanganan Prayog, a space technology club at NIT Agartala.
- Offered mentorship to the students, dedicating efforts to assist and teach individuals facing economic challenges.
- As a supervisor at IU dining, led and mentored a team of 30+ staff members at eatery, ensuring smooth operations and high levels of customer satisfaction.