JAYANTH NAYAK MALOTHU

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Education

Northeastern University — Boston, Massachusetts
Master's in Analytics (Applied Machine Intelligence) (3.8/4) — Dec 2024

Experience

Northeastern University — Boston, Massachusetts
Research Assistant — Jan 2024 - Present

- Conducted sentiment analysis in financial markets using NLP models such as TF-IDF, Bag of Words, and FinBERT.
- Extracted and managed over 4 GB of data through efficient web scraping with BeautifulSoup, incorporating robust data cleaning and batch processing techniques.
- Leveraged Northeastern's cloud computing cluster to reduce model runtime by 17%, significantly improving processing efficiency.
- Utilized a lexicon-based approach to capture sentiment variations across diverse channels, helping detect and analyze latent stress within financial ecosystems.
- Used Airflow to automate the extraction of the data from GCP BigQuery to PostgreSQL database.

WORKSTAM — Irving, Texas
Data Engineer Intern — Apr 2024 – Jun 2024

- Developed and deployed a Tableau-based data visualization solution that provided critical insights to stakeholders, improving operational efficiency by 35% through enhanced data interpretation and decision-making.
- Implemented real-time data streaming with AWS Kinesis, significantly reducing data latency by 40% and enabling timely, actionable insights for operational teams.
- Collaborated with cross-functional teams to design and implement real-time data streaming pipelines, enabling the timely delivery of personalized insights to stakeholders, improving data-driven decision-making by 40%

FINASTRA SOFTWARE SOLUTIONS (Misys) — Bangalore, Karnataka
QA Automation Engineer — Jun 2022 - Dec 2022

- Involved in certification of every delivery to cloud customers in adherence to agreed quality guidelines and checklist.
- Increased automation coverage from 20% to 85% by adding new scripts using Java and Selenium, giving the whole team flexibility and working on multiple client automation suites.
- Handled a portfolio of 5 automation suites for six Neo-Banks across three regions.
- Implemented Automation of critical business flows as part of DevOps pipeline (Internal & Customer Environment) on Azure Cloud.
- Automated entire process of setting up a new environment for new neo banking customers Deploying Ansible scripts.

Publication Work

- "**Sentiment Dynamics in Financial Markets: A Multi-Level Approach to Stress Analysis Across Diverse Communication Channels**" – Initial Presentation at **Fields Institute for Research in Mathematical Sciences –** Currently under Progress.
- **"Assessing Racial Disparities in Real Estate Appraisals Across U.S. Metropolitan Areas"** – in collaboration with **Buyerfolio** – Currently under Progress.

Skills

- **Tools and Technologies:** MySQL, NoSQL, Tableau, Microsoft Power BI, MS Excel (vlookups, sumif, pivot tables), Airflow, Jira, PostgreSQL, Apache Kafka, AWS Glue, Apache Spark, DBT, Databricks, Hadoop, Kinesis, GIT, Docker, Langchain, AWS S3, AWS Lambda, AWS Elasticsearch, AWS EC2, Snowflake, Azure, Selenium, Oracle key valuts, BitcoinCLI.
- **ML/DL:** Regression, Classification, Clustering, CNN, ANN, RNN, NLP Techniques, GenAI, Large Language Models(Tools and Agents)

Certifications

- Certified in AWS Cloud Practitioner (CLF-02)
- Certified in Snowflake Core Pro (COF-C02)

Projects

- **InfoBuddy AI** - Developed an interactive chatbot app using Streamlit, LangChain, and ChatGroq API
- **PDFChatMate** - Developed a Streamlit Conversational Q&A App using LangChain, HuggingFace, and RAG for contextual PDF query resolution.
- **Next Word Prediction** - Developed an LSTM-based deep learning model to predict the next word in sequences, leveraging Shakespeare's *Hamlet* dataset, with a Streamlit app for real-time word predictions.
- **Real Estate Agent Recommendation system** - Developed an AI-powered real estate recommendation system with NLP, interactive visualizations, and scalable real-time processing to enhance fairness and transparency.