Jayanth Nayak Malothu

+1 617-999-2661 | Malothu.j@northeastern.edu | GitHub | LinkedIn

Professional Summary

AI/ML grad skilled in ML pipelines & GenAI (Python, TensorFlow, PyTorch). Cloud (AWS, Azure, Snowflake) & Docker. Enhanced ETL 65%, NLP models 92% accurate. Researcher in distributed systems. Internships: fraud, IoT. Passionate about AI.

Education

MS in Data Analytics (3.86/4) — **Jan 2023 - Dec 2024**
Northeastern University — Boston, Massachusetts

Experience

Research Assistant — **Boston, Massachusetts**
Northeastern University — Jul 2024 - Present

- Engineered sentiment analysis pipelines for financial markets using **TF-IDF, Bag of Words, and FinBERT**, achieving **92% accuracy** in detecting market sentiment shifts to inform algorithmic trading strategies.
- Scaled web scraping workflows using **BeautifulSoup** and Scrapy, extracting **1M+ datapoints/day** from 50+ sources (news, SEC filings, social media) with **98% data integrity** via automated cleansing and deduplication.
- Mapped sentiment volatility to macroeconomic events (Fed rate changes), enabling proactive portfolio rebalancing that reduced client downside exposure by **22%**.
- Migrated **200K+ historical transaction records** from Google **BigQuery** to a **PostgreSQL** OLAP environment, optimizing query performance by **40%** via indexing and partitioning.

Data Engineer Intern — **Irving, Texas**
Workstam — Apr 2024 – Jun 2024

- Engineered fault-tolerant data pipelines using **Python, Snowflake, and AWS Glue**, processing **10TB/day** with automated **Great Expectations** data validation checks, reducing errors by **25%** and manual validation efforts by **30%**.
- Developed **15+ Tableau dashboards** monitoring **8 KPIs** (supply chain latency), adopted by 100+ stakeholders, improving operational efficiency by **35%** and reducing monthly reporting labor by **20 hours**.
- Optimized **Snowflake** storage with **clustering and partitioning**, reducing query runtime from **15min to 2min** (87% faster) and cutting monthly compute costs by **$4.2K**

QA Automation Engineer — **Bangalore, Karnataka**
Finastra (Mysis) — Jun 2022 – Dec 2022

- Boosted automation coverage by **325%** (20% to 85%) via Python, Selenium, and Pytest, enabling parallel execution of 5+ client-specific test suites and reducing regression cycles by **75%**.
- Architected and maintained **5+ automation frameworks** for 3 global neo-banks (APAC, EMEA, NA regions), ensuring compliance with PCI-DSS and scalability for 1M+ monthly transactions.
- Automated **20+ critical business workflows** (KYC, payment processing) into CI/CD pipelines using Azure DevOps and Jenkins, slashing production defects by 40% and accelerating release cadence.
- Orchestrated sprint planning for 10+ cross-functional teams (QA, DevOps, Product), leveraging Jira and Scrum to deliver **15% faster timelines** and resolve 90% of blockers in daily stand-ups.
- Engineered Ansible playbooks to automate cloud environment provisioning for neo-banking clients, reducing setup time from **8 hours to 15 minutes** (95% efficiency gain).

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.

Technical 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 Actions, Git Version-control, Git CI-CD, Docker, Langchain, AWS Bedrock, AWS S3, AWS Lambda, AWS Elasticsearch, AWS EC2, Snowflake, Azure, Selenium, Oracle key valuts, BitcoinCLI, Flask, HTML, JavaScript, CSS.
- **ML/DL:** Regression, Classification, Clustering, CNN, ANN, RNN, NLP Techniques, GenAI, Large Language Models(Agentic AI).

Certification

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

Projects

- **Portfolio Website** – Developed a full-stack portfolio website using HTML/CSS, JavaScript, and Flask with a responsive personalized Chatbot AI Agent trained on my personal information.
- **PDFChatMate** - Developed Conversational Q&A App using LangChain, HuggingFace, and RAG for contextual PDF query.
- **Next Word Prediction** - Developed an LSTM Neural Network- deep learning model to predict the next word in sequences, leveraging Shakespeare's Hamlet dataset, with a Streamlit app for real-time word predictions.