MALLIKARJUN AITHA

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PROFESSIONAL SUMMARY

Data professional with expertise in LLMs, Data Engineering, Data Analysis, GIS spatial analysis, ETL pipelines, and cloud-based data solutions. Proven success in optimizing data workflows and delivering insights through tools like ArcGIS, Spark, and AWS. Adept at collaborating with cross-functional teams to solve complex data challenges.

TECHNICAL SKILLS

Programming: Python, SQL, R, Shell Script
Data Engineering: Spark, Kafka, Hadoop, FAISS
Machine Learning: HuggingFace, LLMs, Embeddings
GIS Tools: ESRI ArcGIS, GeoPandas
Visualization: Power BI, Tableau, Matplotlib
Cloud Platforms: AWS, Azure, Google Colab

PROFESSIONAL EXPERIENCE

Center for Analytics, University of New Haven **Oct 2024 - Present**
Research Assistant West Haven, CT

- Conducted crime analysis for NHPD using ArcGIS, Python, and SQL, leveraging clustering models like DBSCAN and Hot Spot Analysis. Identified high-crime areas and improved resource allocation by 20%.
- Built automated ETL pipelines with Python, AWS Lambda, and PostgreSQL; streamlined NHPD crime data ingestion; integrated predictive models to forecast trends; and reduced manual processing by 15 hours/month.
- Created 10+ interactive dashboards using Power BI and JavaScript (ArcGIS API), visualizing NHPD crime hotspots and time series forecasts with ARIMA and Random Forest models for proactive policing.
- Implemented incremental data pipelines using Python, SQL, and cron jobs to sync daily crime reports from multiple sources, improving data freshness and reliability across analytics platforms by 40%.

Downtown Evening Soup Kitchen Inc. **June 2024 - Dec 2024**
Data Analyst Intern New Haven, CT

- Designed ETL workflows to consolidate donor data, improving accuracy by 30% and operational efficiency.
- Built a predictive analytics pipeline using Python, SQL, and Power BI to forecast donation trends, which helped manage inventory better and reduced food waste by 25%
- Optimized 5+ Power BI dashboards to track KPIs like meal distribution efficiency and volunteer retention, integrating PantrySoft, SQL, and Python for real-time insights, improving decision-making by 30%.

Cognizant Technology Solutions **Sept 2021 - July 2023**
Associate Data Engineer Hyderabad, India

- Built and automated data pipelines using Python and SQL to process 10M+ user interaction logs across 15+ countries, enabling A/B testing insights that improved campaign CTR by 18%
- Developed and deployed 125+ AMEX promotional campaigns using AEM, JSON, React.js, and CI/CD pipelines, automated online enrollment, and reduced offline promotions
- Automated data validation, UI updates, and content deployment with Python, Putty, Shell Scripting, Git, Docker, and cloud-based CRM tools, reduced manual effort and streamlined global web rollouts
- Managed 200+ service requests for GCS UI Cardshop across 15+ countries, optimized multilingual webpage updates, and leveraged technologies like React.js, AEM, and AWS to improve card product visibility

TECHNICAL PROJECTS

RAG-Based Mental Health Q&A System (LangChain, HuggingFace, FAISS)
Developed a Retrieval-Augmented Generation (RAG) system for the mental health domain, comparing Mistral-7B, Meta-Llama, and Falcon-3 models based on perplexity, sentiment consistency, and response quality.

Real-Time Smart City Monitoring (AWS, Spark, Kafka)
Built a streaming pipeline using AWS, Spark, and Kafka to process 10k+ IoT data points/day, reducing latency by 40%. Visualized traffic patterns in Power BI, enabling urban planners to optimize congestion management.

InceptFace (Facenet-pytorch, Gradio)
Developed a facial recognition system using InceptionResNetV1 and MTCNN for detection, with a custom dataset and robust preprocessing, trained using Adam optimizer and Cross Entropy Loss, deployed via Gradio.

EDUCATION

Master of Science in Data Science **August 2023 - May 2025**
University of New Haven | *GPA: 3.8/4.0*

Bachelors in Electronics and Communication Engineering **July 2017 - Sept 2021**
Jawaharlal Nehru Technological University Hyderabad