Jahnavi Ashok

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SUMMARY

Data Scientist and Software Engineer with 4+ years of experience building scalable ML and analytics solutions. Skilled in developing ETL pipelines, integrating LLMs for real-time AI applications, and deploying end-to-end predictive models on AWS and Azure

EDUCATION

MS. in Data Science (4.0/4.0), University of Texas at Arlington   August 2024 – Expected May 2026 | Arlington, USA

B.E. in Information Science (8.8/10), JSS Science and Technology University   August 2017-May 2021 | Mysore, India

TECHNICAL SKILLS

- **Machine Learning:** LSTM, GCNN, Transformers, Random Forest, Logistic Regression, K-Means, NLP, Model Evaluation
- **Generative AI & LLMs: Gemini**, ChatGPT, LLaMA, LangChain, RAG, Prompt Engineering, Agentic AI
- **Data Engineering:** ETL/ELT (Databricks, Spark), Kafka, Hadoop, Airflow, Snowflake, MongoDB
- **Visualization:** Power BI, Excel (Pivot Tables, Power Query, VLOOKUP), Matplotlib, Seaborn, SAS
- **Programming:** Python, SQL, C++
- **Cloud & Tools:** AWS (Lambda, S3, SageMaker), Azure (Databricks, DevOps), Docker, Git, Postman

RESEARCH EXPERIENCE

University of Texas at Arlington, *Machine Learning Research Assistant*   May 2025 – Present | Arlington, United States

- Conduct machine learning and deep learning research **integrating graph neural networks (GNNs), LSTMs, and physics-informed models** for geoscience and environmental applications.
- Develop end-to-end pipelines in PyTorch/PyG for predicting subsurface properties and soil characteristics using limited, noisy field data.
- Collaborate with faculty and graduate teams to translate research findings into reproducible code, visualizations, and publication-ready results.

INDUSTRY EXPERIENCE

Western Digital, *Sr. Software Engineer*   January 2021 – July 2024 | Bangalore, India

- Advanced from Intern to Senior Engineer in 3.5 years, combining strong coding expertise (Python/C++) with analytics to accelerate NVMe SSD validation across 4+ product lines.
- Applied statistical analysis and performance profiling to redesign execution workflows, introducing lazy-loading and parallelization that **reduced validation runtime by 40%.**
- Developed a database-driven log analytics platform, **improving throughput by 15%** and **enabling 20% faster insights** from millions of test records.
- Set technical direction for migration to database-backed systems, mentored junior engineers, and partnered with cross-functional teams (firmware, QA, product) to deliver faster, data-driven decisions.

RELEVANT PROJECTS

Resisitivty prediction using Graph neural networks

- Designed a **Graph-Convolutional Recurrent Network (GCRNN)** to predict resistivity from gamma ray and porosity logs across 142 wells, leveraging inter-well correlations to overcome limited data and building an end-to-end PyTorch/PyG pipeline.
- Applied Optuna-based hyperparameter tuning, **boosting accuracy by >30% over baseline LSTMs**.

AI-Powered Mock Interview Tool

- Built an AI-powered mock interview assistant using **GPT-3.5-Turbo with RAG retrieval**, Streamlit UI, and audio/text interfaces for adaptive, real-time feedback.
- Containerized the app with Docker and set up CI/CD pipelines (GitHub Actions) for automated testing and scalable deployment.

Blog Generation using Amazon Bedrock and LLaMA, Amazon Bedrock

- Deployed a serverless blog generator on AWS (Lambda + API Gateway + Bedrock), **achieving <200 ms latency** for real-time content generation.
- Leveraged Postman and S3 for prompt-response traceability and scalable LLM deployment.

ACHIEVEMENTS

- Manuscript in preparation for **SPWLA 2026 conference** on predicting resistivity using GCRNN
- **Recipient of $9,500 Graduate Research Grant**
- **UTA Datathon Winner** – Achieved **97% accuracy** with a real-time ML solution in a **24-hour challenge**.

CERTIFICATIONS

- **Generative AI Fundamentals** — Databricks