Jahnavi Ashok

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EDUCATION

Master of Science, Data Science — Expected May 2026
University of Texas at Arlington, Arlington, TX — 4.0 GPA

Bachelor of Engineering, Information Science — May 2021
JSS Science and Technology University, Karnataka, India — 8.8 CGPA

TECHNICAL SKILLS

Languages/Libraries: Python, C++, C, SQL, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, TensorFlow, Keras, Hugging Face Transformers, OpenAI GPT
Tools & Platforms: Power BI, Streamlit, Visual Studio, Jupyter, Git, Databricks
Core CS Knowledge: Data Structures, Algorithms, OOPs

PROFESSIONAL EXPERIENCE

Western Digital, Bangalore, India: Sr. Software Engineer, Software Engineer, Intern — January 2021 – July 2024

- Contributed to prototyping and validating NVMe protocol-based storage devices, streamlining firmware validation workflows in an Agile/Scrum environment.
- Implemented and enhanced NVMe command support per evolving product requirements, increasing validation efficiency by 15%.
- Replaced direct device queries with a database-backed system, improving framework performance by 20% and reducing system load.
- Extended tool functionality to support multi-controller environments, increasing scalability and expanding testing coverage by 50%.
- Optimized data retrieval using lazy tree-loading logic, enhancing tool performance by 40%.
- Led the design, documentation, requirements gathering, feasibility analysis, and effort estimation processes, ensuring efficient and predictable development cycles.
- Utilized continuous integration tools and performed risk analysis, system debugging, and validation testing to ensure software quality.
- Gained hands-on experience with CI/CD, Linux environments, Git, and debugging tools, making direct contributions to high-performance and maintainable infrastructure.
- Mentored 5 interns, accelerating onboarding and enhancing team productivity and delivery timelines.

RELEVANT PROJECTS

Soil Saturated Hydraulic Conductivity (Ksat) Prediction - *UTA Datathon Winner* — April 2025

- Won 1st place at UTA Datathon by building an end-to-end machine learning pipeline to predict soil Ksat values with 97% test accuracy.
- Engineered features from multi-source soil datasets; performed data cleaning, transformation, and unit standardization.
- Trained and tuned a Random Forest model using cross-validation; ran 50+ randomized trials to validate consistency via RMSLE and R^2 metrics.
- Deployed a Streamlit web app to enable real-time Ksat prediction from user-input soil parameters.

Hybrid LSTM + GNN Model for Oil Well Resistivity Prediction — August 2025

- Developed a multiplex Graph Neural Network (GNN) combined with LSTM to predict ILD (resistivity) curves using well log data.
- Constructed neighbor graphs using Spearman correlation and integrated depth-wise features from 5 different correlation types.
- Applied Optuna hyperparameter tuning with early stopping, optimizing dropout, learning rate, and hidden dimensions.
- Visualized predictions using Matplotlib, enabling well-to-well performance analysis.

AWARDS & HONORS

- **Spot Award**, for software tools contribution *(Western Digital, July 2023)*
- **1st Place – UTA Datathon (2025)** – Best machine learning solution