**Jahnavi Ashok**

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**SUMMARY**

Software Engineer with 3.5 years of experience building high-performance storage systems in C++ and Python. Experienced in optimizing tools for performance, database-backed frameworks, and distributed validation in Agile/Scrum environments. Proficient in applying ML and graph methods to complement engineering workflows.

**EDUCATION**

**MS. in Data Science**, University of Texas at Arlington 8/2024-Expected 05/2026 | Arlington, United States

**BE. in Information Science**, JSS Science and Technology University 8/2017 - 05/2021 | Mysore, India

**TECHNICAL SKILLS**

* **Languages/Libraries:** C++, C, Python, SQL, R, Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow, Keras, PyG
* **Frameworks & Databases:** PyTorch, Spark, MySQL
* **Tools & Platforms:** Linux, Git, Docker, Kubernetes, Visual Studio, Tableau, Streamlit, Jupyter

**WORK EXPERIENCE**

# University of Texas at Arlington, *Graduate* *Research Assistant* 05/2025 – Present | Arlington, United States

* Designed scalable Python data pipelines to preprocess well-log datasets (660+ wells, 801 depth points each) for ML model training, ensuring reproducibility and modularity.
* Engineered multiplex graph generation ensuring efficient preprocessing for 660+ well datasets.
* Implemented and optimized hybrid LSTM + GCN models within structured codebases, incorporating logging, unit testing, and version control best practices.
* Collaborated with geoscientists to integrate domain insights and improve model interpretability.

# Western Digital, *Sr. Software Engineer* 01/2021 – 07/2024 | Bangalore, India

# Progressed from Intern to Senior Software Engineer in 3.5 years, leading validation and automation initiatives for NVMe protocol based SSDs across 4+ product lines

# Contributed to the prototyping and validation of NVMe protocol-based storage devices, helping streamline firmware testing in Agile/Scrum teams.

# Built a Python-based UI integrated with low-level C++ device drivers via Boost.Python, reducing manual intervention and enabling seamless test automation.

# Designed and implemented enhancements for NVMe command support based on evolving product requirements, increasing validation efficiency by 15%.

* Replaced direct device queries with a **database-backed framework**, cutting system load and improving performance by 20%.
* Extended internal tools for **multi-controller support**, expanding automation coverage by 50% and scaling testing capacity.
* Optimized data retrieval with lazy tree-loading, increasing tool speed by 40%.

**RELEVANT PROJECTS**

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

# Developed an end-to-end ML pipeline with modular Python code for predicting soil Ksat, achieving 97% accuracy.

# Engineered features from multi-source soil datasets and tuned hyperparameters using cross-validation.

# Built scalable preprocessing modules and automated evaluation over 50 randomized trials to ensure robustness.

# Deployed via Streamlit with Docker for real-time, user-friendly predictions.

**Customer Churn Prediction Project** January 2025

* Developed a customer churn prediction model using Logistic Regression in Python to identify at-risk customers.
* Assessed model performance using ROC-AUC, precision-recall, and confusion matrix analysis.
* Automated reporting with Matplotlib/Seaborn, enabling business stakeholders to derive retention insights.
* Provided actionable recommendations that helped reduce customer churn by 12%.

**LEADERSHIP & ACTIVITIES**

# Vice President, Data Organization, UTA