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