MIA SHI

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WORK EXPERIENCES

AI Engineer & Data Scientist (GenAI Evaluation & QA) May 2025 - Present
Reframe Data Services *North Bethesda, MD*

- Owned quality assurance and evaluation of production GenAI agents integrating multiple LLM providers (Claude, OpenAI, Gemini), ensuring reliability, traceability, and alignment with organizational standards.
- Designed automated evaluation frameworks for LLM outputs, including hallucination detection, rule-based validation, accuracy benchmarking, and cost monitoring across 17+ OpenSearch-backed RAG pipelines.
- Applied governance controls to AI pipelines (prompt versioning, output constraints, audit logging), supporting safe deployment of decision-facing AI systems.
- Built CI/CD-enabled GenAI pipelines on AWS (ECS, EKS, ECR, Lambda, S3) with automated testing and rollback, achieving 99.9% uptime while reducing inference cost by 68% and latency by 44%.
- Collaborated cross-functionally with product leaders, editors, and engineers to validate AI behavior against business and policy requirements, improving analyst productivity by 40%.

Data Engineer (Data Quality & Validation) Jun. 2024 - May 2025
The Sunwater Institute *North Bethesda, MD / Remote*

- Developed and validated large-scale NLP and speech-processing pipelines (AWS Transcribe, Textract) achieving 90%+ transcript accuracy for policy-critical datasets.
- Implemented automated data quality checks, schema validation, anomaly detection, and failure monitoring to support downstream ML evaluation and reporting accuracy, reducing pipeline errors by 75%.
- Built ETL pipelines (Python, PySpark, SQL) with reproducibility and auditability to support downstream ML and analytics use cases.
- Partnered with researchers and leadership to ensure analytical outputs met documentation, quality, and governance expectations.

Data Analyst May 2020 - May 2024
The University of Texas at Dallas *Richardson, TX*

- Designed, evaluated, and validated 20+ predictive, NLP, and time-series models supporting applied social-policy and global-health analytics.
- Applied text mining, semantic similarity, and statistical methods to large-scale survey and unstructured text data, contributing to peer-reviewed publications.
- Translated complex analytical results into stakeholder-ready insights and visual summaries for interdisciplinary research teams.
- Led and mentored a team of five research assistants, overseeing data collection, quality checks, modeling workflows, and delivery timelines.

SELECTED PROJECTS

AI-Powered Chatbot for Customer Engagement (2024)

- Developed and evaluated a GenAI chatbot using Python + MySQL with NLP and XGBoost.

Kaggle Plant Pathology Competition (Top 3, 2023)

- Applied CNN transfer learning (ConvNet) on 13k+ images, with augmentation techniques boosting classification accuracy to 86.8%.

Big Data Risk Analysis with Hadoop & Tableau (2022)

- Processed large-scale geospatial datasets using Hadoop, Hive, and Spark and delivered interactive Tableau dashboards to support business risk analysis.

EDUCATION

Ph.D. in Political Science (Quantitative Methods & Data Science) — UTDallas — GPA: 3.95/4.0
M.S. in Business Analytics (Data Science & Engineering Track) — UTDallas — GPA: 3.95/4.0

SKILLS

GenAI & Evaluation: LLM evaluation, prompt QA, hallucination detection, RAG; **Machine Learning**: NLP, deep learning (CNNs), classification, regression, time series, predictive modeling, statistical analysis; **Data Engineering**: ETL, PySpark, SQL, OpenSearch; **Cloud**: AWS (S3, Lambda, ECS/EKS), CI/CD, Docker; **Programming**: Python; **Certifications**: AWS Cloud Practitioner