MIN (MIA) SHI

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EDUCATION

The University of Texas at Dallas Dec. 2024 (*Expected*)
Ph.D. Candidate in Political Science – Quantitative Statistical Modeling Focused GPA: 3.95/4.0

The University of Texas at Dallas May 2024
Master of Science in Business Analytics (STEM) – Data Science & Data Engineer Track GPA: 4.0/4.0

WORK EXPERIENCES

Data Engineer Intern Jun. 2024 - Present
The Sunwater Institute *North Bethesda, MD / Remote*

Developed scripts to collect data, created and managed data pipelines, and ensured data quality.

- Implemented web scraping solutions to extract data from websites, storing over 1 million records in databases.
- Created ETL process for ingesting data using AWS S3 and Glue, boosting data processing efficiency by 40%.
- Automated speech-to-text and speaker identification using AWS Transcribe, achieving over 99% accuracy.

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

Took responsibility for data analysis for 10+ global health/policy projects using advanced statistical models.

- Managed data collection in diverse methods including Qualtrics surveys and web scraping using R and Python.
- Developed 20+ robust statistical models (multi-variable and fixed-effect regression, difference-in-difference, time-series) combined ML models and NLP skills to support correlation and causal inference in research.
- Led a team of five junior assistants, ensuring collaboration and timely project completion and publication.

Data Scientist Student Consultant Aug. 2023 - Dec. 2023
Working for Onyx CenterSource through The University of Texas at Dallas *Dallas, TX*

Led the creation of an AI-driven chatbot, enhancing customer engagement through advanced NLP techniques.

- Employed NLP and MySQL for analyzing and querying an extensive database containing over 10 million entries.
- Achieved 25% improvement in response efficiency and provided 99% accurate predictions using XGBoost model.
- Contributed to a 15% rise in user engagement, increasing customer satisfaction and bolstering company's image.

PROJECTS

Twitter Clone: High-throughput Social Media Backend — *Python, Django* May 2024 - Present

Working on a six-month solo project developing a social media platform's backend using HBase, MySQL, and Redis with Django framework in Python.

- Maximizing query efficiency by storing objects with HBase, MySQL & Amazon S3 based on query complexity.
- Addressing N+1 slow query issues by implementing Redis caching and denormalization.
- Integrating Celery and RabbitMQ to establish asynchronous workers with varying priority levels.
- Implementing a push model for distributing news feeds to followers efficiently.
- Optimizing memory and resource allocation using recursive small batches of asynchronous tasks.

Kaggle Plant Pathology Competition: Leveraging Deep Learning CNNs Nov. 2023 - Dec. 2023

Implemented deep learning models using Python and PyTorch to enhance disease identification accuracy in crops.

- Utilized transfer learning on CNNs with 13042 images in 12 categories, enhancing disease identification accuracy.
- Conducted image transformation, including rotation, flipping, zooming, and noise injections to augment data.
- Fine-tuned ConvNext DL CNN models and achieve 86.8% accuracy, securing a Top 3 ranking in the competition.

Big Data Risk Analysis and Data Visualization for a Trucking Company Aug. 2022 - Dec. 2022

Engineered data visualization dashboards using Tableau, linked to Hadoop, for business risk analysis.

- Processed and analyzed geospatial data with Hadoop, Hive, and Spark, reducing processing time by 40%.
- Developed Tableau visualizations linked to Hadoop and built interactive dashboards for business analysis.
- Conducted linear regression and multivariate analysis, contributing to predictive accuracy by 15%.

SKILLS

Programming & Tools: Python, SQL, R, SAS, Stata, Tableau, Power BI, Alteryx
Database & Big Data: MySQL, PostgreSQL, AWS S3, AWS Glue, Hadoop, Sqoop, Hive, Impala, Pig, Spark
Certificates: Certificate in Applied Machine Learning, AWS Certified Cloud Practitioner, Google Analytics