Trina Xavier

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WORK EXPERIENCE

University of Massachusetts Dartmouth • Dartmouth, MA

Graduate Teaching Assistant- Applied Business Analytics and Info Visualization   Dec 2024- Present

- Guided students in applying Python and Tableau for data analysis, statistical modelling, and data storytelling.
- Reinforced failure mode analysis, cost-benefit analysis, and data-driven decision-making using SQL and Excel for real-world business and operational challenges.

Civic Engagement Coordinator and Database Administrator- Leduc Center   Jan 2024 – Present

- Tracked a SQL/Power BI-driven database, performed data analysis and dashboard creation, and integrated JIRA, increasing data accuracy by 30% while streamlining volunteer scheduling and performance monitoring.
- Managed workflow optimization and resource allocation, ensuring efficient volunteer scheduling and KPI tracking for 200+ volunteers using GivePulse and Power BI dashboards.

Academic Tutor and Mentor - STEM Learning Lab   Dec 2023 - Present

- Boosted STEM students' performance by 20%, reflected in higher test scores and project success.
- Managed STEM Lab operations, increasing utilization by 30% and supporting 100+ students weekly.

Smart Knower • Hyderabad, India   Dec 2022- Mar 2023

Data Analyst Intern- IIT Tirupati

- Built large-scale data science solutions and ML models for inventory insights, orchestrating ETL pipelines that improved data quality and boosted reporting efficiency by 20%.
- Developed real-time analytics dashboards in Tableau and QuickSight via RESTful APIs for proactive maintenance and streamlined equipment monitoring.

EDUCATION

M.Sc. in Data Science   May 2025

University of Massachusetts Dartmouth • Dartmouth, MA

B.Tech. in Electronics and Communications   Jun 2023

TKR College of Engineering and Technology • Hyderabad, India

SELECT PROJECTS

MediSync: AI Medical Triage & Appointment Scheduling App- *Python, NLP, Image Analysis, FastAPI, AWS*

- Engineered an end-to-end AI-driven healthcare pipeline with voice-assisted triage using FastAPI, Gemini API and deep learning for multi-modal symptom analysis, integrating MongoDB, AWS, and image processing to enable real-time medical triage, appointment scheduling, and advanced disease insights.

3D Particle Diffusion with Parallel Monte Carlo- *Python, Scientific Computing, GPU Acceleration*

- Developed GPU-accelerated Monte Carlo simulations with Python and NumPy, achieving a 49x speedup for solving the 3D diffusion equation, validated against analytical solutions for applications in pollutant dispersion.

Hospital Database Management System- *MongoDB, Python, Bootstrap, Flask, JavaScript*

- Developed a MongoDB-based database system with full CRUD functionality for patient management, appointment scheduling, and medical records storage
- Automated ETL pipelines for data reconciliation and data validation, improving data accuracy by 30%.

English Dialect Classification with AI - *Librosa, PyTorch, NLP, Data Wrangling & Augmentation, Deep Learning*

- Developed and optimized a Wav2Vec2-based deep learning model for English dialect classification, achieving 90%+ accuracy for forensic and voice-based AI, while implementing an advanced audio feature extraction pipeline for robust analysis.

CERTIFICATIONS

Google Advanced Data Analytics Professional Certificate (Google Coursera)   Feb 2022 – Apr 2022

SQL Bootcamp Certification (Udemy)   Mar 2022 – Jun 2022

Lean Six Sigma White Belt Certification