

# Trina Xavier

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## EDUCATION

### M.Sc. in Data Science

May 2025

University of Massachusetts Dartmouth, Dartmouth, MA

**Relevant Courses:** *High Performance Scientific Computing, Advance Data Mining, Mathematical Statistics, Advance Machine Learning, Database Design, Applied Business Analytics Info Visualization*

### B.Tech. in Electronics and Communications Engineering

June 2023

TKR College of Engineering and Technology, Hyderabad, India

## WORK EXPERIENCE

### University of Massachusetts Dartmouth, Dartmouth, MA

#### Graduate Teaching Assistant- Applied Business Analytics and Info Visualization

Jan 2025 - Present

- Mentored students in Tableau Prep, guiding them in cleaning and transforming data to ensure consistency for effective business analytics and compelling data storytelling.
- Assisted in developing dashboards and reports with Tableau and Excel, emphasizing key business metrics and KPIs for informed decision-making.

### UMassD's Leduc Center

#### Civic Engagement Coordinator & Student Leader

Jan 2024 - Present

- Tracked over 200 weekly volunteers using GivePulse data, generating quarterly Power BI reports that increased data accuracy by 20% and optimized resource allocation.
- Coordinated volunteer initiatives at the Leduc Center, organizing beach cleanups, leading positive college tours, and managing volunteer efforts at YMCA Southcoast Farm.

### UMassD's STEM Learning Lab

#### Academic Tutor and Mentor

Dec 2023 - Present

- Enhanced academic performance of a weekly cohort of 15 STEM students through personalized tutoring and targeted academic support.
- Increased lab utilization by 30% using UMassD TutorTrac data to optimize tutor assignments and track high-demand courses, supporting 100+ students weekly.

### IIT Tirupati, Smart Knower, Hyderabad, India

#### Data Analyst Intern

Dec 2022 - Mar 2023

- Analyzed employee attrition trends using Tableau, examining factors like job role, satisfaction, salary, and work-life balance. Built an interactive dashboard to help HR assess retention and turnover insights.
- Performed comprehensive EDA and implemented tuned XGBoost models for employee attrition prediction, achieving 87% accuracy.

## PROJECT EXPERIENCE

### MediSync: AI Medical Triage & Appointment Scheduling App- Python, NLP, Image Analysis, Fast API

- Developed an AI-powered healthcare pipeline for MediSync, leveraging Python, NLP, and image analysis to deliver voice-assisted medical triage using OpenAI's Whisper.
- Integrated FastAPI, deep learning models, and MongoDB for seamless, real-time appointment scheduling and patient data management.

### GPU-Accelerated 3D Diffusion Monte Carlo Solver- Python, Scientific Computing, GPU Acceleration

- Developed a GPU-accelerated Monte Carlo approach in Python to solve the 3D diffusion equation, validating accuracy against analytical solutions and achieving a 49x speedup for large-scale pollutant dispersion simulations

### Hospital Database Management System- MongoDB, Python, Data Modeling, Bootstrap, Flask

- Engineered a full-stack Hospital Management System using Python, MongoDB (PyMongo), SQL, Bootstrap, and Flask. Designed robust relational and document-based databases to deliver secure, scalable CRUD operations for efficient patient management, appointment scheduling, and medical records storage.

### AI-Powered Dialect Classification- Librosa, PyTorch, NLP, Data Wrangling & Augmentation, Deep Learning

- Built and optimized a Wav2Vec2 model using Librosa and PyTorch for English dialect classification, achieving 90%+ accuracy in forensic and voice AI applications.
- Employed advanced data wrangling, augmentation, and NLP techniques to enhance model robustness.

## SKILLS

**Technical Skills:** Python, R, SQL, MongoDB, PostgreSQL, Flask, FastAPI, PyTorch, TensorFlow, Pandas, NumPy, scikit-learn, Docker, Git, Linux, Tableau, PowerBI, NLP, Data Wrangling, Image Analysis, Deep Learning

**Soft Skills:** Leadership, Communication, Problem-Solving, Project Management, Mentoring, Team Collaboration