TEJAS JADHAV

jadhavt@purdue.edu | +1(317) 724-1895 | www.linkedin.com/in/tejas-jadhav999 | Chicago, IL

EDUCATION

Purdue University, Master of Science, Computational Data Science — Aug 2023 – May 2025

- *Relevant Coursework*: Applied Regression, Time Series Analysis, Statistical Machine Learning, Statistical Computing.

University of Pune, Bachelor of Engineering, Computer Engineering — Aug 2018 – Aug 2022

- *Coursework Highlights*: Linear Algebra, Artificial Intelligence, Data Structures and Algorithms.

EXPERIENCE

Indiana University — Aug 2024 – May 2025

Research Assistant

- Built an AI framework using BERT, RoBERTa, and **fine-tuned adapters** for dementia detection from chat transcripts, with **90.4% accuracy**.
- Implemented explainable AI techniques with **Language Interpretability Tool EMNLP '20**, Delivered interpretable predictions, enhancing clinical trust for early dementia screening.

Purdue Department of Computer and Information Science — Jan 2024 – May 2024

Graduate Assistant

- Designed and implemented an **LLMOps pipeline** to fine-tune small-scale language models, providing a strategic contingency **solution for service LLM outages**.
- Leveraged cutting-edge models (GPT-4o, Claude 3 Sonnet, Gemini 1.5 Flash) for data synthesis and evaluation, while fine-tuning smaller models such as Gemma 2B, Mistral 7B 0.3, and LLaMA3 8B.

PROJECTS

Metaphor Identification through Bi-Directional LSTM and BERT Embeddings

- Crafted a Bi-Directional LSTM model with attention mechanisms, integrating BERT embeddings to classify metaphoric expressions, with **91% accuracy**.
- Collaborated with peers to improve model performance, ranking in the top 5 of the class for metaphor detection.

Retrieval and generation optimization in RAG

- Enhanced a RAG system by **fine-tuning embedding models**, focusing on both retrieval and generative capabilities in domain-specific contexts.
- Improved system **Precision score 0.74, Hit rate 0.86 beating SOTA by approximately 5-6%.**

Predicting Patient Mortality Risk: Bayesian Neural Networks

- Applied Bayesian Neural Networks to 46,520 ICU patient records, increasing uncertainty detection by **230%** for out-of-domain cases and **resolving issues related to uncertainty**.
- Utilized Bayes by Backdrop, yielding **10.4% higher AUPR-SUCC**, and **8.4% lower AUPR-ERR**, strategically improved trustworthiness in out-of-domain scenarios.

SKILLS

Languages & Frameworks: Python, R, SQL, SAS, Pandas, NumPy, Matplotlib, Scikit-Learn, TensorFlow, Seaborn, Tableau, PyTorch

Technical Skills: Gradient Boosted Machines, K-Means Clustering, Random Forest, Principal Component Analysis, Decision Trees, Text Processing, LSTM, GRU, Transformers, Word2Vec, BERT, GPT, Generative AI, Ensemble Learning, Hypothesis Testing, A/B Testing, Exponential Smoothing, ARIMA, SARIMA, SARIMAX, Data Analysis, Automation, Predictive Modeling, Prescriptive Modeling, Data Engineering, Data Collection, Data Processing, Data Transformation

Certifications: Improving Deep Neural Networks, Convolutional Neural Network, Sequence Models, Structuring Machine Learning Projects by DeepLearning.ai

AWARDS & HONORS

- Awarded Top Student in the department and received an $11,000 scholarship for academic excellence and research contributions.