# TEJAS JADHAV

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## **PROJECTS**

#### Airline Customer Support RAG Chatbot [GitHub]

- Developed an end-to-end airline support system with a web interface using RAG, LangChain, and agentic workflows.
- GPT-40 powered chatbot handles flight updates, hotel & car bookings, and trip recommendations with real-time tool integrations.

#### LLMOps Pipeline for Fine-Tuning and Service Continuity in LLM Outages [GitHub]

- Designed and implemented an LLMOps pipeline to fine-tune small-size LLMs as a contingency for service LLM outages.
- Leveraged GPT-40, Claude 3 Sonnet, and Gemini 1.5 Flash for data synthesis and response evaluation, while fine-tuning small models such as Gemma 2B, 7B, Mistral 7B 0.3, and LLaMA3 8B.

#### Metaphor Identification through Bi-Directional LSTM and BERT Embeddings [GitHub]

- 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.

### Predicting Patient Mortality Risk: Bayesian Neural Networks [GitHub]

- 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.

#### **EXPERIENCE**

#### **Purdue University**

Graduate Assistant Jan 2024 – May 2024

- 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.

#### **Indiana University**

Research Assistant Aug 2024 – May 2025

- 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.

#### **EDUCATION**

## **Purdue University**

M.S. Computational Data Science

*Aug* 2023 – *May* 2025

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

#### **University of Pune**

B.S. Computer Science

Aug 2018 – Aug 2022

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

#### SKILLS

Languages & Frameworks: Python, R, SQL, SAS, Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, TensorFlow, PyTorch, Tableau PyTorch, TensorFlow, Keras, Sklearn, Pandas, Numpy, Statsmodel, Matplotlib, Seaborn, Tableau, Power-BI, Github/Git, Azure, AWS.

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