Teja Babu Mandaloju

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Experience

Vosyn Inc. **Jun 2025 – Present**

MLOps Engineer *Chicago, USA*

- Developed and deployed AI Agents with multimodal Retrieval-Augmented Generation (RAG) system integrating text, video, and image embeddings using Gemini 2.5 MLLM and Vertex AI vector search, improving knowledge retrieval accuracy by 40%
- Architected scalable RAG pipelines leveraging Cloud Run, Docker, and GCP storage buckets with GitHub CI/CD automation, reducing deployment time from 3 hours to 15 minutes
- Engineered multimodal embedding pipelines converting unstructured data into vector representations using Tree-AH algorithm and dot product distance, enabling semantic search across 10M+ documents
- Led team of 4 engineers in implementing automated web scraping solutions using Apify and GCP services, increasing data ingestion efficiency by 60% for downstream AI applications
- Established MLOps best practices including model monitoring, infrastructure automation, and collaborative development workflows, reducing production incidents by 75%
- Python, Gemini 2.5, Vertex AI, GCP, Docker, Cloud Run, GitHub CI/CD, Apify

University of North Texas **Jan 2024 – Present**

Research Assistant *Denton, Texas*

- Conducted advanced NLP research focusing on disaster response, education, and healthcare applications, contributing to 3 academic publications and 2 conference presentations
- Fine-tuned transformer-based models (BERT, RoBERTa, GPT) using PyTorch and Hugging Face for classification and text generation tasks, achieving 92% accuracy on custom datasets
- Designed deep learning framework for emotion and topic detection from social media text using CNN-LSTM architecture, processing 100K+ social media posts with 88% precision
- Collaborated with PhD researchers and faculty on grant proposals worth $150K, demonstrating strong research methodology and academic writing capabilities
- PyTorch, Hugging Face, BERT, RoBERTa, GPT, CNN, LSTM, Python

Tata Consultancy Services **Nov 2021 – Dec 2023**

Data Scientist *Hyderabad, Telangana*

- Developed machine learning models for churn prediction, demand forecasting, and risk scoring using scikit-learn and XGBoost, reducing customer churn by 25% and improving forecast accuracy by 30%
- Implemented deep learning models (CNN, LSTM) for image classification and sequence prediction tasks, achieving 94% accuracy on production datasets for retail and finance clients
- Deployed end-to-end ML pipelines using Azure ML Studio with automated model tracking and deployment, reducing time-to-production from 6 weeks to 2 weeks
- Created Python-based interactive dashboards and implemented model explainability using SHAP and LIME, enabling stakeholders to understand model decisions and increasing adoption by 40%
- Collaborated in Agile teams to deliver data-driven solutions for Fortune 500 clients across finance and retail domains, managing projects worth $2M+ in total value
- Python, scikit-learn, XGBoost, CNN, LSTM, Azure ML Studio, SHAP, LIME, Tableau

Larsen & Toubro Infotech **Aug 2020 – Nov 2021**

Data Engineer *Hyderabad, India*

- Architected and maintained ETL pipelines using Python, SQL, and Apache Airflow to automate data ingestion from 15+ diverse sources, processing 500GB+ daily data volume
- Optimized large-scale data workflows on Azure Data Factory and managed data storage in Azure Blob and SQL databases, improving processing speed by 45%
- Implemented comprehensive data quality checks and logging mechanisms ensuring 99.9% data integrity and complete traceability across all pipeline stages
- Collaborated with analytics teams to build reusable data models and infrastructure supporting 20+ downstream machine learning applications
- Python, SQL, Apache Airflow, Azure Data Factory, Azure Blob Storage, Azure SQL Database

Skills

Programming Languages: Python, R, SQL, MATLAB, C#
Machine Learning: Scikit-learn, XGBoost, PyTorch, TensorFlow, Statsmodels
Deep Learning: CNN, RNN, LSTM, Transformer Models (BERT, GPT), Neural Networks
Cloud Platforms: Azure ML Studio, AWS SageMaker, GCP Vertex AI, Cloud Run
Statistical Methods: Logistic Regression, Time Series Analysis, GLMs, Mixed Modeling, Predictive Modeling, Random Forests
Data Tools: Pandas, NumPy, Matplotlib, Seaborn, Tableau, Spark, Hadoop
DevOps & Deployment: Docker, GitHub CI/CD, Apache Airflow, Version Control
Databases: MySQL, MongoDB, Azure SQL, GCP Storage
Certifications: Microsoft Certified: Azure Data Scientist Associate (2025), Google Generative AI Fundamentals (2024), Microsoft Certified: Azure AI Fundamentals (2022)

Education

University of North Texas **Jan 2024 – Dec 2025**
Master of Science in Data Science, GPA: 4.0 *Denton, Texas*

- **Relevant Coursework:** Data Analytics, Data Visualization, Deep Learning, NLP, LLMs

Jawaharlal Nehru Technological University Hyderabad **Jun 2017 – Aug 2021**
Bachelor of Technology, GPA: 3.6 *Hyderabad, India*

Projects

Financial Time Series Forecasting System | *Python, LSTM, Azure ML* **March 2024**

- Developed sophisticated time series forecasting model using LSTM networks to predict financial market trends, achieving 87% accuracy on historical S&P 500 data
- Implemented feature engineering pipeline incorporating technical indicators (RSI, MACD, Bollinger Bands) and sentiment analysis from financial news using BERT
- Deployed model on Azure ML with automated retraining pipeline and real-time inference endpoints, processing 10K+ predictions daily

Customer Churn Prediction with Explainable AI | *Python, XGBoost, SHAP* **November 2023**

- Built ensemble machine learning model combining XGBoost and Random Forest to predict customer churn with 93% accuracy and 0.91 F1-score
- Performed comprehensive feature engineering and selection on customer transaction data, identifying top 15 predictive features from 200+ variables
- Integrated SHAP explainability framework to provide actionable insights for business stakeholders, leading to targeted retention strategies

Multimodal Healthcare Document Analysis | *PyTorch, Computer Vision, NLP* **September 2023**

- Designed deep learning pipeline combining CNN for medical image analysis and BERT for clinical text processing, achieving 91% accuracy in diagnosis classification
- Implemented attention mechanisms to identify critical regions in medical images and relevant text passages, improving model interpretability for healthcare professionals
- Created data preprocessing pipeline handling DICOM images and clinical notes from 5 hospitals, standardizing formats for consistent model training

Leadership / Student Organizations

UNT Data Science Organization (2024 – Present): Organized weekly ML workshops, increasing membership by 30%, and led a 5-student team to develop a predictive analytics project for a local non-profit
Association for Information Systems - AIS (2024 – Present): Competition Team Lead managing cross-functional team in AI-driven IT support automation challenge, securing second place among 50+ teams and presenting solutions to industry professionals at University of Alabama

Awards

2nd Place - AIS AI-Driven IT Support Challenge **2025**
Runner-up in nation-wide artificial intelligence competition *AIS Student Chapter*

Excellence in Innovation Award **2021**
Outstanding contribution to technology innovation project *T-Hub & Hiroshima Prefecture Japan*

UNT Welcome Center Appreciation Award **2025**
"Most likely to turn a spreadsheet into an Art" - Data visualization excellence *UNT Welcome Center*