Mutyalapati Akhil Kumar

makhil.vnk@gmail.com | +91-6302958788 | LinkedIn | GitHub

Objective

Aspiring Data Scientist skilled in Python, SQL, and machine learning. Experienced in deep learning, NLP, and predictive modeling. Passionate about building real-world AI/ML solutions and continuously advancing technical expertise.

Skills

Programming: Python, SQL, C++.
Machine Learning & AI: Supervised/unsupervised learning, CNNs, RNNs, LSTMs, NLP.
Tools & Frameworks: TensorFlow, Keras, Scikit-Learn, Pandas, NumPy, Matplotlib.
Data Visualization: Matplotlib, Seaborn, Streamlit.
Soft Skills: Problem-solving, teamwork, communication.

Projects

Traffic Sign Recognition System using Deep Learning   [LINK]   *Apr 2025 – May 2025*

- Built a real-time traffic sign recognition system using CNN trained on the GTSRB dataset with 43 traffic sign classes.
- Achieved **98.7% test accuracy** by implementing data augmentation, dropout regularization, and adaptive learning rates.
- Integrated OpenCV for live video feed processing and sign detection using bounding boxes and class labels.
- Deployed the model using FastAPI backend and a React frontend with webcam-based user interface.

Sentiment Analysis on Twitter Dataset   [LINK]   *Mar 2025 – Apr 2025*

- Analyzed 1.6M tweets (dataset size: 1,599,999 × 6) for sentiment classification using NLP techniques.
- Preprocessed text data by cleaning, tokenizing, removing stopwords, and vectorizing with `TfidfVectorizer`.
- Built and evaluated a Logistic Regression model, achieving 79% accuracy on sentiment prediction.
- Deployed the model via Render to allow users to input tweets and receive real-time sentiment results.

Brain Tumor Detection using Deep Learning   [LINK]   *Nov 2024 – Dec 2024*

- Designed and trained a CNN model on 1,000+ MRI images for brain tumor detection, achieving **85.81% accuracy**.
- Preprocessed and augmented MRI image data to improve model generalization.
- Visualized model performance using `Matplotlib`, including accuracy/loss trends and confusion matrix.
- Deployed a real-time tumor classification system with high precision and recall.

Education

Bachelor of Technology in Data Science   *Sep 2023 – May 2027*
Vellore Institute of Technology, Amaravati, India
CGPA: 8.1 / 10
Specialization: Machine Learning, Deep Learning, and Natural Language Processing