BIKRAM MANNA P

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bikram73

Education

BMS Institute of Technology and Management *2023 - 2026*

BE in Computer Science

- **CGPA:** 8.01
- **Coursework:** DBMS, OS (Operating System), Networks, DSA (Data Structures and Algorithms)

Raman Polytechnic *2020 - 2023*

Diploma in Computer Science **CGPA:** 9.32 *2018 - 2020*

South End English High School

Skills

Languages: Python, SQL

Technologies & Framework: TensorFlow, NumPy, Pandas, OpenCV

Tools & Platforms: Git, MongoDB, Power-BI, Linux (Operating System)

Soft Skills: Communication, Problem-Solving

Projects

Left Ventricular Hypertrophy Detection | A Machine Learning Approach*:*

- Built an AI-powered medical diagnostic system for detecting LVH using multimodal cardiac data including (ECG signals, MRI inaging, CT imaging, clinical parameters), achieving 94.2% accuracy with ensemble ML models.
- Engineered an advanced feature extraction pipeline across 4 medical modalities using Pan-Tompkins (ECG), GLCM (MRI), Hounsfield units (CT), and automated clinical risk processing.
- Developed a production-ready web application with dual input modes (file upload + forms), interactive multi-tab visualizations, real-time confidence scoring, and full REST API integration.
- Implemented 36 ML models across 9 algorithms with auto-tuning, cross-validation, and stacking, creating specialized modality-wise models with detailed performance metric visualization.
- Tech Stack: Python, Flask, TensorFlow, scikit-learn, XGBoost, OpenCV, Bootstrap 5, JavaScript, Pandas, NumPy, Matplotlib, Plotly, REST APIs.

Brahmilipi to Kannada Character Recognition System | AI-Powered Script Conversion Platform:

- Built an end-to-end character recognition system using deep learning (TensorFlow/Keras) with CNN architecture achieving accurate conversion from Brahmilipi script images to Kannada Unicode characters, supporting 7+ core vowels and consonants.
- Developed a synthetic data generation pipeline creating 20+ variations per character class with noise injection and geometric transformations, solving the challenge of limited training data for ancient script recognition.
- Engineered a robust preprocessing pipeline with OpenCV for image normalization, resizing (64x64), and grayscale conversion, ensuring consistent model input and handling various image formats (PNG, JPG, BMP).
- Created a Flask-based web application with real-time image upload, prediction API endpoints, and responsive UI for seamless user interaction, enabling instant character recognition with visual feedback.
- Tech Stack: Python, TensorFlow/Keras, OpenCV, Flask, NumPy, scikit-learn, HTML/CSS/JavaScript, JSON.

Achievements & Extra Circular Activities

- Completed NVIDIA's Certificate of Competency in Building LLM Applications With Prompt Engineering
- Actively engaged in community service through Rotaract and NSS