Mrudula Lawar

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github.com/Mrudula02-me

Education

B.Tech. in Artificial Intelligence and Data Science — **2023 - 2027**
VIIT, Pune — CGPA: 8.44

HSC, Maharashtra Board — **2021 - 2023**
B.R.K. Kanya Vidyalaya — 92.80%

SSC, Maharashtra Board — **2021**
Mahale Podar College — 68.50%

Skills

Programming	Python, C++, SQL
ML & Deep Learning	Regression, Classification, Clustering, CNNs, RNNs, LSTMs, TensorFlow, Keras, PyTorch, Scikit-learn
NLP & AI	BERT, Transformers, Hugging Face, Agentic AI, LLMs, Web Scraping (BeautifulSoup), NLTK
Data Science	Pandas, NumPy, Feature Engineering, EDA, Matplotlib, Seaborn, Power BI
Computer Vision	OpenCV, YOLO, Image Processing, Roboflow API
Tools	VS Code, Jupyter Notebook, Git/GitHub, Google Colab, Excel

Projects

Multimodal Sentiment Analysis Pipeline *TensorFlow, Keras, PyTorch, OpenCV*
- Built cross-modal AI system integrating CNNs for facial expression analysis, RNNs for speech tone recognition, and BERT for text-based sentiment classification
- Achieved 85% accuracy in human emotion recognition through advanced data preprocessing, feature extraction, and model fusion techniques across vision, audio, and text modalities
- Demonstrated expertise in handling complex multi-input neural architectures for real-time sentiment prediction

Marathi Language Sentiment Analysis *BeautifulSoup, Pandas, Scikit-learn, NLTK*
- Developed comprehensive NLP pipeline for sentiment analysis of Marathi social media content with web scraping from multiple online sources
- Implemented advanced text preprocessing including tokenization, stopword removal, and TF-IDF vectorization tailored for regional language processing
- Trained and evaluated multiple classification models (Naive Bayes, SVM) achieving high accuracy in multi-class sentiment classification

Image Compression using K-Means Clustering *OpenCV, NumPy, Scikit-learn*
- Implemented unsupervised K-Means clustering algorithm to compress images through intelligent pixel color palette reduction while preserving visual quality
- Achieved significant file size reduction (up to 70%) with minimal perceptual quality loss through optimized cluster selection
- Demonstrated practical application of clustering techniques in real-world computer vision scenarios with efficient implementation

Smart Farm Security Surveillance System *OpenCV, YOLO, IP Webcam*
- Designed and deployed real-time AI-powered surveillance system integrating YOLO object detection with IP Webcam for continuous animal detection and tracking
- Implemented instant alert notifications and comprehensive logging system for detected intrusions to prevent crop damage
- Enabled autonomous monitoring with early warning capabilities providing farmers with 24/7 intelligent crop protection

Achievements

- **Amravati National Hackathon 2025** – Secured Top 10 position for Warehouse Space Optimization System with AI-driven inventory tracking
- **Runner-up at Viz-a-Thon** (Data Visualization Hackathon) – Built interactive dashboards with Power BI
- **Event Management Associate** – Artificial Intelligence Students Association (AiSA VIIT)