Prathmesh Kangane

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Education

Bachelor of Engineering in Computer Science Engineering June 2022 –May 2026

University of Mumbai, India

Technical Skills

- **Languages:** Python[Proficient], Java, SQL
- **Web Frameworks:** Flask, Django
- **ML Frameworks/Libraries:** Hugging Face, OpenCV, Sklearn, Tensorflow, Keras, NLTK, Numpy, Pandas, Matplotlib, PyTorch, Librosa, SentenceTransformers
- **Artificial Intelligence:** NLP, Transformers, LLMs, Generative AI, Deep Learning, Anomaly Detection, Feature Engineering, Data Processing, Prompt Engineering
- **Cloud:** AWS, Git.
- **Databases**: MySQL

Experience

AI & Cloud Computing Intern — *Edunet Foundation* June 2024 – August 2024

In collaboration with IBM SkillsBuild & AICTE

- Developed and deployed AI models for precision agriculture using Python, TensorFlow, and IBM Cloud AutoAI, improving crop prediction efficiency.
- Capstone Project Crop Recommendation: Built a supervised ML model (via IBM Watsonx.ai AutoAI) trained on soil and environmental parameters (N, P, K, temperature, humidity, pH, rainfall), achieving ~90% accuracy in crop suggestions.
- Leveraged AutoAI for automated model selection and training, resulting in a LightGBM-based model deployed as an online prediction service, enabling real-time recommendations for 50+ test cases.

Projects

- **Research Paper Recommendation System | Streamlit, TensorFlow, Sentence Transformers, LLMs**
  - Architected and deployed an AI-driven research paper recommendation engine using Sentence Transformers for semantic similarity and a deep learning classifier for subject-area prediction, achieving 87% Top-5 accuracy on ArXiv data
  - Translated user research needs into an interactive Streamlit web application that ingests paper titles and abstracts to generate personalized recommendations with real-time domain predictions
  - Combined cosine-similarity retrieval with an MLP-based classification model, improving recommendation relevance by ~20% over keyword-based baselines
  - Optimized embedding generation and inference pipelines to support scalable, low-latency recommendations for large academic datasets

- **Emotion Detection Support Bot | Python, Librosa, TensorFlow, Streamlit**
  - Designed and trained a voice-based emotion recognition system using MFCC feature extraction and LSTM networks, achieving ~78% multi-class emotion classification accuracy
  - Integrated an emotion-aware conversational support bot that dynamically adapts responses based on detected emotional state, improving user empathy and engagement
  - Built a production-ready Streamlit interface supporting real-time microphone input and uploaded audio files, with waveform visualization and emotion-driven chatbot outputs
  - Validated system performance on 200+ audio samples, ensuring robustness across varied speech patterns and emotional intensities

Certificates

- The Complete Python Pro Bootcamp [2025 Udemy]
- Python For Data Science [2024 NPTEL]
- Database Management System [2025 Infosys Springboard]
- Software Engineering and Agile Software Development [2025 Infosys Springboard]
- Object Oriented Programming Using Python [2025 Infosys Springboard]
- Generative AI Mastermind [2025 Outskill]
- Getting Started with Artificial Intelligence [2025 IBM Skillsbuild]

Coursework

Database Management, Software Design, Data Structures, Statistics, Machine Learning,Deep learning