Mitali Rawat

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Education

Vellore Institute of Technology, Bhopal CGPA: 8.57
B.Tech in Computer Science(Specialisation in Artificial Intelligence and Machine Learning) *Sep. 2022 – Present*

Delhi Public School, Indore Marks: 90%
XII *2022*

Delhi Public School, Indore Marks: 93%
X *2020*

Experience

Core Member June 2023 – Jan2025
E-Cell, VITB *Bhopal*

- Organized events and managed teams, showcasing leadership and collaboration skills.
- Built a network with industry professionals and peers, enhancing communication and networking abilities.
- Solved challenges in event planning and sponsorship acquisition, fostering creativity and adaptability.

Projects

Heart Disease Diagnosis | *Python, TensorFlow, Scikit-learn, Pandas, Matplotlib*

- Engineered a binary classification model leveraging Artificial Neural Networks (ANN) to predict heart disease risk.
- Preprocessed and standardized data using `Scikit-learn`, splitting it into training and testing sets to ensure reliable evaluation.
- Incorporated dropout layers to mitigate overfitting, boosting the model's generalization capability.
- Achieved a test accuracy of 92% and visualized training/validation trends using Matplotlib.
- Analyzed performance using confusion matrices, achieving actionable insights for healthcare applications.
- Documented the work in a research paper discussing its impact and applications.

Plant Disease Detection | *Python, TensorFlow, Streamlit, Pandas*

- Developed a CNN-based model to detect plant diseases using images and provided recommendations for treatment.
- Integrated the trained model into a web application using `Streamlit` for easy user interaction.
- Deployed data augmentation techniques, enhancing model robustness and training efficiency.
- Achieved an accuracy of 95% on validation data, ensuring high reliability for disease classification.
- Delivered real-time treatment recommendations, empowering farmers with actionable solutions.

Driver Drowsiness Detection System | *Python, YOLOv5, OpenCV, PyTorch*

- Designed a real-time driver drowsiness detection model using YOLOv5 and OpenCV for facial feature recognition.
- Trained the model on custom datasets with PyTorch to identify signs of fatigue such as eye closure and yawning.
- Achieved a detection accuracy of 90% and ensured efficient inference in real-time scenarios.
- Implemented alert mechanisms, enhancing driver safety in high-risk scenarios.
- Optimized the model for deployment by reducing size and improving inference speed.

MindBandhu – Mental Health Chatbot | *Python, Gemini API, Hugging Face, Flask, NLTK, Transformers, Googletrans*

- Developed an AI-powered mental health chatbot that provides emotionally intelligent responses using Google's Gemini LLM.
- Integrated emotion detection using a BERT-based Hugging Face model to tailor replies and suggest self-care tips.
- Implemented multilingual support (default English, switchable by user), enabling culturally inclusive conversations.
- Designed user-specific context memory for personalized chat flow and used prompt engineering for short, empathetic replies.

Technical Skills

Languages: Python, C++, Java, SQL
Frameworks: Supervised/Unsupervised Learning, Deep Learning, CNN, NLP, YOLOv5, PyTorch
Tools and Libraries: TensorFlow, Keras, Scikit-learn, Pandas, NumPy, Hugging Face, NLTK, Seaborn, Generative AI, Matplotlib
Soft Skills: Effective Communication, Analytical Thinking, Flexibility, Eagerness to Learn