Harshit Anand

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Education

Kalinga Institute of Industrial Technology   **Aug. 2021 – Aug. 2025**
Bachelor of Technology - Computer Science and Systems Engineering [CGPA: 7.63]   Bhubaneshwar, India

B.D. Public School – 12th Boards   **2021**
CBSE

Experience and Projects

Audio Intelligence and Conversational Agent (AICA) (Link)   **May. 2024 – Dec. 2024**
- Developed the Audio Intelligence and Conversational Agent (AICA) for advanced audio processing and user interaction.
- Developed a user-friendly webpage for seamless interaction with the platform.
- Integrated recording audio as well as upload audio files into the webpage with user login.
- Integrated GPU acceleration to significantly enhance the speed of audio transcription and processing.
- Levered **FFmpeg** for seamless handling and conversion of multiple audio file format.
- Implemented multi-language ASR using Whisper model, achieving over **95% accuracy** in diverse languages.
- Integrated real-time ASR, speaker diarization, and language detection.
- Integrated AssemblyAI API for accurate English transcription with robust, scalable performance.
- Enabled audio summarization using the Mistral-NeMo LLM model for a concise audio file summary.
- Incorporated language detection to automatically identify and classify spoken content in multiple languages.
- Automated audio format conversion to WAV, ensuring consistent and efficient processing across the pipeline.
- Automated the complete process to run when any new audio file is found and then send the response generated by LLM to webpage.
- Designed a modular workflow to cater to varying user requirements and scenarios.

Deepfake Detection System   **Dec. 2023 – May 2024**
- Engineered a sophisticated model for frame-by-frame video analysis, identifying face-swapped videos with 98% accuracy.
- Significantly enhancing content authenticity and reducing manual verification workload by 50%.
- Employing ResNet50, LSTM, neural network and face recognition.
- The system captures the faces from the given input video using a face recognition module.
- Using ResNet50 model for feature extraction and LSTM model for classifying into fake or original.
- Achieved an accuracy of 83% in identifying fake videos.

Real-time Face Mask Detection   **Mar. 2024 – Apr. 2024**
- Developed a computer vision model achieving 95% accuracy in detecting faces with and without masks in real-time.
- This leads to a 20% reduction in manual monitoring time.
- The dataset on which the keras sequential model has been trained has in total of 3833.
- Images of people in mask and people with no mask on stored separately, each of the categories has about 1920 images.
- Engineered an advanced machine learning model using convolutional neural networks (CNNs).
- Integrated it with webcam functionality, achieving a 95% accuracy rate in real-time object detection.

Email Ham Spam detection   **Sep. 2023 – Sep. 2023**
- Developed a Deep Learning model to classify incoming emails as spam or legitimate (ham).
- Using email dataset with over 5000 email samples.
- Applied techniques like text pre-processing, feature engineering, and pretrained BERT Model achieving an accuracy of 97%.

Certifications and Training

- IBM Professional Certification in Data Science from Coursera (Link)
- Hacker Rank SQL (Basic + Intermediate + Advance), Problem Solving (Basic + Intermediate), Python (Basic) (Link)
- DevOps-certified by training and placement cell KIIT (Katallyst) (Link)

Technical Skills

- **Technologies**: C/C++, Python (Ollama, Langchain, AssemblyAI, Seaborn, Pandas, NumPy, SKlearn, TensorFlow, PyTorch), Jupyter Notebook, MySQL, MS Office
- **Tools**: GitHub, Spreadsheet, Excel, PowerPoint, PyCharm
- **Skills**: Data Analysis, Data Visualization, SQL, C/C++ and Python programming, Large Language Model, Presentation Skills, Machine Learning, Data Cleaning and Preprocessing