# 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

**Relevant Coursework**: Object Oriented Programming, Data Structures and Algorithms, Operating Systems, Database Management, Artificial Intelligence, Machine Learning, Data Science, Software Engineering, Computer Networks, Cloud Computing.

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

*CBSE*

## Experience and Projects

**Audio Intelligence and Conversational Agent (AICA) [Currently Working…]**

- Developed the Audio Intelligence and Conversational Agent (AICA) for advanced audio processing and user interaction.
- Developed a Streamlit app for an interactive user interface to upload and process audio files.
- Implemented multi-language ASR using Whisper model, achieving over **95% accuracy** in diverse languages.
- Integrated real-time ASR, speaker diarization, and language detection within the Streamlit app
- Integrated AssemblyAI API for accurate English transcription with robust, scalable performance.
- Enabled users to interact with the Mistral-NeMo LLM model via the app for detailed audio analysis.
- Designed a speaker diarization algorithm to accurately separate multiple speakers in audio files.
- Incorporated language detection to automatically identify and classify spoken content in multiple languages.
- Developed a conversational agent using Mistral-NeMo LLM for real-time interaction with transcribed audio.
- Automated audio format conversion to WAV, ensuring consistent and efficient processing across the pipeline.
- Facilitated direct interaction with processed audio data, enhancing accessibility and user experience

**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.

**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.

**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% in identifying spam emails.

## 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