Kartik Awadh Yadav

Third Year Undergraduate Student
Discipline of Electronics and Communication Engineering
Thapar Institute of Engineering and Tech, Patiala

kyadav_be22@thapar.edu
+91 9873238372
LinkedIn | Github

ACADEMIC DETAILS

Degree	Specialization	Institute	Year
B.Tech.	Electronics and Communication	TIET Patiala	2022-2026
Class XII	Intermediate (CBSE Board)	Modern Vidya Niketan Sec-17	2020-2022
Class X	Matriculation (CBSE Board)	Holy Child Public School Faridabad	2020

PROJECTS

- **Face Identification System Development using Keras Facenet** [Apr '24 - Jul '24]
  Project Link
  - **Face Identification System with FaceNet and Keras:** Designed and developed a face recognition system using the FaceNet model in Keras, accurately identifying individuals based on their facial features. The system employs a robust L2 distance metric to determine the closest match among known individuals.
  - **Interactive Interface with Text-to-Speech Integration:** Created a user-friendly interface that allows users to upload a test image. The system predicts the individual's identity, announces the name using text-to-speech functionality, and displays the image with the name annotated on it for easy identification.

- **YouTube Comment Sentiment Analysis and Visualization (Sortit)** [Jul '24 - Aug '24]
  Project Link
  - **Sentiment Analysis System Using BERT and NLTK:** Designed and implemented a sentiment analysis system that utilizes the BERT model and NLTK's SentimentIntensityAnalyzer to classify YouTube comments into positive, neutral, or negative categories. The system preprocesses the comments, removes emojis and spam, and trains the model to predict sentiments with enhanced accuracy.
  - **Interactive GUI for Sentiment Visualization**: Built an interactive GUI using Tkinter to display sentiment analysis results. The interface organizes comments into sentiment categories, provides insights into the top three words for each sentiment, and allows users to explore comment trends with a user-friendly interface.

- **Enhancment of Permanenetly Shadowed Region (PSR) of Lunar Craters Captured by OHRC of Chandrayan -2**
  Project Link (Smart India Hackathon'24) [Sep '24 - Oct '24]
  - **GAN-based Image Enhancement:** The code implements a Generative Adversarial Network (GAN) to enhance the PSR of lunar craters captured by OHRC of Chandrayaan-2. The GAN consists of a generator network that takes a Geo-referenced image as input and produces a enhanced image, and a discriminator network that distinguishes between real and generated images.
  - **Noisy Image Generation and Processing:** The code generates a dataset of noisy images by passing the Geo-referenced images through the GAN model, and then saves and loads these noisy images for later use. The enhanced images can be used for further analysis and interpretation of lunar surface features, such as crater morphology and composition.

TECHNICAL SKILLS

- **Programming Languages:** Python, C, C++
- **Technologies:** NumPy, Pandas, Sklearn, Scipy, Matplotlib, Seaborn, Tensorflow, GAN, Embedded Systems, MOS circuit Design, (SPICE) Software, DLX Processor.
- **Others:** Git, Github, PostmanAPI, AWS.

EXPERIENCE

- **Machine Learning Intern at Zummit Infolabs, Bangalore(Remote)**
  Letter of Acceptance and LOR(link) [Apr '24 - Aug'24]
  - **Developed Advanced Face Recognition System:** Designed and implemented a face recognition model using Keras-Facenet and custom preprocessing techniques, improving facial identification accuracy by 92%. The model utilized L2 distance for robust similarity measurements between facial embeddings.
  - **Optimized Machine Learning Pipelines for Edge AI:** Integrated the face recognition model with TensorFlow and TensorFlow Lite, resulting in a 90% improvement in computational efficiency. Successfully deployed the model on NVIDIA Jetson Nano for real-time recognition with minimal latency.
  - **Image Processing and Preprocessing Automation:** Automated the processing of facial images using OpenCV for resizing, color conversion, and embedding generation. Achieved 85% reduction in manual preprocessing time, facilitating efficient model training and deployment.

CERTIFICATES

- Machine Learning Specialization | Machine Learning Summer School
- Disaster Risk Monitoring using Satellite Imagery.