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CHENNAI,TAMILNADU
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# SANJITH KUMAR R

AI ENGINEER

github.com/SANJITH-KUMAR-20
linkedin.com/in/

I am an aspiring young individual still on the knowledge development threshold. I look forward to a good career in the field of Deep Learning and AI and Data Science.

## Education

**High School**, NSN Matriculation Higher Secondary School — 10+2: 92.0 — Apr 2019 - Apr 2021
**High School**, NSN Memorial School — 10: 84.0 — Apr 2019 - Apr 2021
**Bachelor of Technology**, *BTech in Artificial Intelligence and Data Science* — CGPA 9 — May - 2025

## Skills

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|---|---|
| **Tools and Languages** | Python (Pandas, PyTorch, NumPy, Scikit-learn, Tensorflow, FastAPI), SQL, Java, C. |
| **Other Tools** | Microsoft Office , Git , Postman |
| **Soft Skills** | Problem Solving , Team management. |
| **Communication** | English, Japanese(N5,N4),Tamil. |

## Certifications

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|---|---|
| Data Science certification | Shiash info tech private ltd. |
| Exploratory Data Analysis for Machine Learning | IBM Coursera |
| Machine Learning supervised learning - Regression and Classification | IBM Coursera |
| Deep learning and Neural Networks | DeepLearning.AI coursera |
| Machine Learning foundational course | Kaggle |
| Generative AI | DeepLearning.AI coursera |

## Projects

**Action Recognition For Sign Language**

- Using camera feed to take in input and using a set of frames to predict an action.
- Implemented an Sequential LSTM model that takes in a set of Mediapipe holistic landmarks and predicts the output.
- different activation functions and ended up with good accuracy(93) for the 'relu' activation.
- Tools Used: Python, Tensorflow, MediaPipe.
- https://github.com/SANJITH-KUMAR-20/Action-Recognition/tree/main

**Sales Forecasting**

- Analysing of a store sales time series dataset from a kaggle competition.
- Building a random forest model after experimenting with multiple models(extra trees regress-or and bagging techniques).Using custom transformers to pre-process the data effectively.
- Using FastAPI and postman to write the backend deployment code.
- Tools Used : Python with scikit-learn, Pandas, matplotlib, Seaborn,FastAPI,postman.

**Sign Language Recognition**

- Built a CNN model to predict and classify between different signs used in sign langauge(1-5)
- Use OpenCV to preprocess the data effeciently to convert the image to single channel and calculating the accumulated weighted average of the background to expertly extract the hand sign and then using the image as an input to the model.
- Tools Used: Python with Tensorflow and OpenCV

**Comment Toxicity Classification**

- Building an Bidirectional LSTM model with an embedding layer to process the Vectorized text from both directions using data from Twitter API.
- Used Tanh activation in the bidirectional LSTM layer gave better accuracy than other activations.
- Building a small gradio application to better visualise the result.
- **Tool Used:** Python with Tensorflow, Gradio, Natural Language Processing
- https://github.com/SANJITH-KUMAR-20/Comment-Toxicity-Identifier

**Image Description Generation**

- Using the flicker 8K dataset from kaggle that contains 8000 images and their descriptions to build and train a LSTM/CNN model.
- Preprocessing the dataset and using transfer learning to bring in the Xception model which is a deep CNN model and removing the top layer to get the feature vectors of each image to be processed by the LSTM model .
- Using the feature vector of the image and the vectorized text to build a functional API to generate texts.
- **Tool Used:** Python with Tensorflow, Transfer learning, Natural Language Processing

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**Deep Audio Classification**

- Using the "z by hp" dataset to predict the bird density of a particular bird in the amazon forest
- Building a CNN model that uses the Short-Time Fourier Transformer to convert the Audio to a spectrogram and predicts the number of bird calls.
- Using the model to predict the number of bird calls in different clips in different regions of the forest to find the bird density.
- **Tool Used:** Python with Tensorflow, Audio processing

**BMI Analysis**

- Using BMI dataset to predict the
- Building an extra trees classifier to expertly classify between different health status of an individual.
- Deployment of the trained model.
- **Tool Used:** Python with Scikit-learn, git, pycaret and autoviz

## Activies

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|---|---|
| Cloud computing workshop | 2022 |
| Java workshop | 2022 |
| Techno Symposium Co-ordinator | 2022 |