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| **Task Details** | **Solution Screen Shot** | **Time Taken & Time to repeat the same task again** | **Challenges faced and how it has been overcome** | **Notes and learned outcomes from this task** |
| 1. Audio analysis 2. Identifying peaks and extracting the peak part in audio 3. Creating keras model for peak classification 4. Creating flask api to get the video or audio url and to post the response to a web page 5. Dockerizing the model such that the API is exposed to the port number 0.0.0.0:8080 or localhost:5000 |  | 35 Minutes, 15 Minutes  8 Hours, 3 Hours  2 hours, 1 hour  30 min, 30 min  6 Hours, 1 Hour | Understanding the audio signals and its parameters(bandwidth, nominal level, power level in decibels (dB)), After through research on each parameter got good grip to proceed further on audio analysis  Identifying the right tools to identify high peaks in audio signals and preprocessing the audio signals. Studied various frameworks like keras, tensorflow, scipt, lebrosa to select the best approach  Pre-processing the audio file and extracting the features from audio file to train CNN model, using librosa to extract features made the task easy  Previous experience on flask made it easy for me to create flask api  With no previous experience on Dockers faced problems in setting up the python environment, using librosa library in python docker had issues, solved by using conda python environment in docker made it easy to manage the python packages. | Using the parameters like signal rate, bandwidth or audio, decibels, frequency etc to perform analysis on audio signals. Understanding Spectrograms  Audio signal preprocessing (Split audio based on silence, calculating the width of a peak, identifying the peaks)  Got to understand the audio classification and extracting the features from audio  Learned to get arguments , and to post responses to web pages using flask  Learned to create docker files, build dockerfile to create docker image, runnig the docker at specific ports. |

Areas of Interest for future:

As I am passionate about data, looking forward in future to play a big role in an organisation to make decisions based on the facts derived from the data.

What would you like to learn next in technology?:

Deep dive in machine learning techniques, catching up with the latest state of the art models and tools in the Deep Learning and NLP. Learning more on Cloud technologies and on Big data side.