Introduction to Datascience

Final Project

Fall 2021

Web Application with FLASK

Final Deadline: 20ᵗʰ December, 2021

Instructions:

- You are required to work in **Python**. Projects incompatible of Python will not be accepted
- It is an **individual project**
- User Interface is important in this project. Try to be as **creative** as possible
- Use of extra features in this project is encouraged
- Use good programming practices, well commented code, meaningful variable names, readable code etc.
- Submit a **single zip file** named as **i20-xxxx.zip**, students not following the submission guidelines would be **penalized**
- Evaluation Rubrik will be shared soon
- If you are getting any help from internet, you have to cite that website and you must be able to explain that code
- **In case of plagiarism student be awarded with "F" grade in the course.**

Project Description:

You are required to work on the RUHA dataset provided in Assignment 7. As you've already applied KNN on the audio data set you must now be comfortable with Machine Learning. You need to do the following tasks:

- Train any 5 classifiers on the provided dataset using sklearn library. Classifiers can be of your own choice. As you've already worked with the dataset and applied KNN on it you must know how to work with audio dataset and how to train a classifier for it.
- Display the confusion matrix, accuracy, recall, precision and F1-meausre for the 5 classifiers you have trained.
- Now comes the most important part of the project, you will be working with **Flask** in this project. Flask is a Python web framework that makes it easy to create a fully-featured web application. It is quite simple, easy to learn and is a very demanding skill in the market thus will help you a lot.
- You have to create a web application and deploy your project on it, basically interacting on the web application for input and output. A user will be giving the test case on your website e.g., "Ruha lights band kardo" after which using the 5 classifiers you've trained you will get a result which you have to creatively display on the webpage.
- After the result is displayed, you'll also have a result analytics button that would redirect the user to another webpage on which the complete result would be displayed. Like, how did the 5 classifiers perform on the dataset.
- You're encouraged to push your creative skills and create a user-friendly web application as the aesthetics and presentation of the web application carries a major portion of the project's marks.
- Start working right away as the deadline of the project is final and will not be extended.

You do not need to get worried as a couple of sessions would be conducted to give you a hands on tutorial with Flask as well as a session in which the project would be thoroughly explained and all your queries would be addressed as well.

BEST OF LUCK!