**Moo-Sic (Mood Based Personalized Song Recommender System)**

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**Abstract**

*Nowadays, music platforms provide easy access to a wide variety of music. Humans use facial expressions to express what they want to say and the context in which they mean their words. The input for mood/emotion detection input will be the user’s webcam picture. Using Spotify data of each user, we aim to create a recommender system that can recommend songs that best suit their interests based on their current mood.*

1. **Motivation**

Songs are the best way to cheer someone up. However, choosing the appropriate song becomes tedious and annoying at that moment. Hence, we came up with classifying the user's mood and then suggesting a song based on their interests.

1. **Related works**

**2.1.**

<https://towardsdatascience.com/part-iii-building-a-song-recommendation-system-with-spotify-cf76b52705e7> - This article talks about building a recommendation system on information extracted using Spotify API. It discusses two recommender system principles, i.e., content-based and collaborative.

**2.2.**

<https://fruct.org/publications/acm26/files/Rum.pdf> This paper presents the design of a personalized music recommendation system driven by listener feelings, emotions, and activity contexts targeted to help people.

**2.3**

<https://www.researchgate.net/publication/344869977_Emotional_Detection_and_Music_Recommendation_System_based_on_User_Facial_Expression>

Analyzing the facial expression may lead to understanding the user's current emotional or mental state. The model implements an Emotion-Audio Integration Module to recommend the songs.

1. **Timeline**
2. Collecting dataset for Emotion Detection.
3. Collecting Spotify dataset of various users.
4. Applying EDA on both datasets and drawing inferences from it.
5. Using different ML algorithms/DL models to train our emotion detection model.
6. Hyper-parameter tuning along with the comparison-based analysis for different algorithms.
7. Creating a recommender system that can suggest songs based on their interests.
8. Creating a pipeline that can aggregate both results to develop a final list of recommended songs.
9. **Individual tasks**

All four members will work collaboratively on all the tasks in our timeline. We will distribute the work equally during the course of the project based on one’s expertise in a certain topic and their availability at the time.

1. **Final Outcome**

We aim to deploy our pipeline on a web server like Heroku where users can enjoy our services via an interactive GUI. It will be hosted such that anyone can access this facility anytime.

A possible further target is to make a chrome extension of our project which can be used by people in real-time on their web browsers.