Title Of the Project: Music -Genre-Classification

Team Details:

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PROJECT DETAILS:

DataSet that is planning to be used :

- For this project, we need a dataset of audio tracks having similar sizes and a similar frequency range.
- **GTZAN genre classification dataset** is the most recommended dataset for the music genre classification project and we are planning to use this dataset.

GTZAN Genre classification dataset is planning to be containing the audio files of the following 10 genres:

- Blues
- Classical
- Country
- Disco
- Hiphop
- Jazz
- Metal
- Pop
- Reggae

Algorithm Going to use :

There are various methods to perform classification on this dataset. Some of these approaches are:

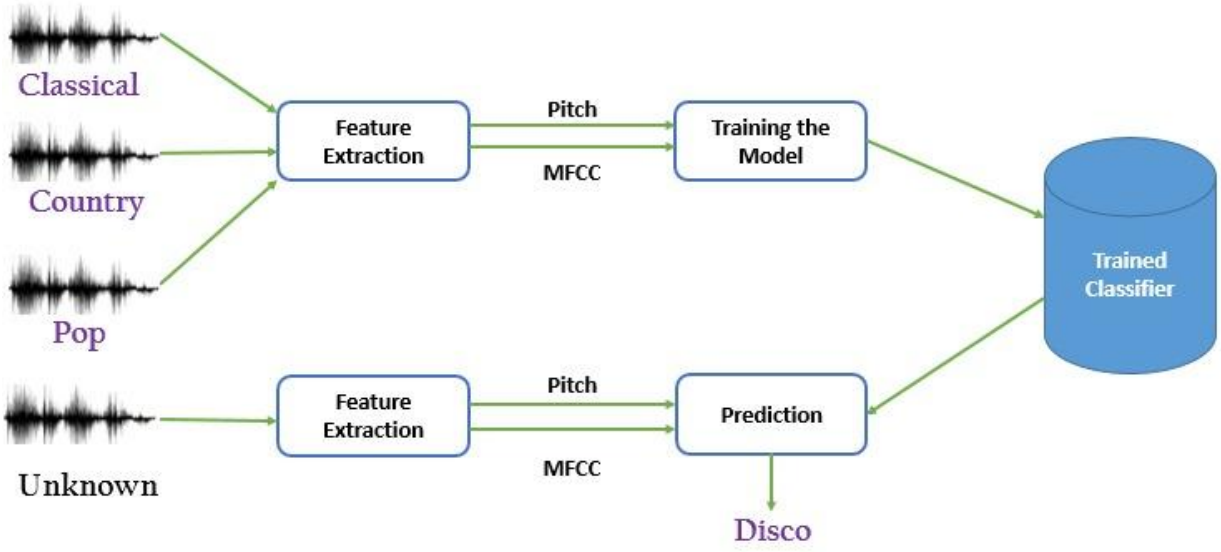
- Multiclass support vector machines
- K-means clustering
- K-nearest neighbors
- Convolutional neural networks

We are planning to use **the K-nearest neighbors algorithm** because in various research it has shown the best results for this problem.

Project Abstract :

Music Genre Classification is a concept that helps the masses to differentiate between 2 genres based on their composition or the beats they withhold. In recent times, music genre classification has become a very popular concept as more and more genres are emerging around the world. Ex:"Using a tool called machine listening, songs are analyzed by Spotify's music-intelligence division, the Echo Nest, based on their digital signatures for a number of factors, including tempo, acoustic-ness, energy, danceability, strength of the beat and emotional tone".Here we will classify these audio files using their low-level features of frequency and time domain.

BASIC OUTLINE DIAGRAM:


Classical
Country
Pop
Unknown
Feature Extraction
Feature Extraction
Pitch
MFCC
Pitch
MFCC
Training the Model
Prediction
Trained Classifier
Disco