

Playlist Creation Based On Audio Features | **Capstone Project I Proposal**

Amanda Strack

Problem:

The right song can motivate you to run that extra mile or grind through that last chapter of studying. That's why people often have a playlist for particular activities or moods. However, it can be time consuming to create these playlists. It requires sifting through many songs and then determining if it fits a certain category based on how it sounds.

In this project I will automate the playlist creation process using machine learning. I will do this by exploring certain audio features of a song and classifying which playlist category the song best fits into based on these features.

Client:

My client is a music streaming company such as Spotify. The client will be able to use this data-driven product feature to enable users to more easily discover songs through pre-made playlists.

Data:

The data I will be using will be from Spotify Web API (<https://api.spotify.com>). I will extract details from Workout, Focus, Party and Chill Playlists that are already available on Spotify. I will also extract another larger dataset of songs with audio feature details such as Tempo, Instrumentalness, Loudness, and Liveness. There is a potential of extracting additional audio feature variables through an audio package.

Approach:

After cleaning and processing the data, I will perform Exploratory Data Analysis to identify any trends in audio features and playlist categories. Potential feature engineering based on these trends will be pursued. I will then implement a classification model to predict a playlist category for a particular song. The predictor variables will be audio features such as Tempo. My training data will be a dataset of the songs of four different playlist categories and its corresponding audio features.

Deliverables:

My deliverables will include code on Github along with a slide deck outlining the problem, methods and results. I am exploring the idea of creating some sort of interface that will suggest songs based on a certain activity that a user selects.