Orie 4741 Project Proposal

Akshay Yadava (aay29) and Ben Polson (bsp73)

Is there a way to predict a set of songs a user will like given an input of their preferences about music?

The Spotify API is a web-based API that provides public information regarding songs released on its platform. This information provides popularity levels among different artists in real-time, the different countries to which a given song or album is available, and myriad audio metrics for each song in its database, including a song's acousticness, liveliness, and danceability among many others. With this overabundance of data, a pondering question would be to see if it is possible to generate a playlist for Spotify users based on their preferences to select criteria relative to audio features.

This question is important because it provides a novel way into generating new music that can be accessed by anybody. Oftentimes many people fall into the same pattern of listening to the same few artists and fail to diversity their music taste. If this project were to be fully accomplished, a user would be able to have access to varied songs that they are more likely to enjoy based on their preferences. Hopefully, this can be done with clustering algorithms and surveying people who try out the application.

With the entire Spotify API at our disposal, it would be easy to analyze the most popular songs and see which assortment of different audio features lead songs to be more enjoyable than others. This is what we will do if it is too difficult to execute our original idea. Also with the immensity of the dataset, there is a large set of training data that may be used to train the algorithm. This project is worth investing in as it provides a hands-on application of Machine Learning to provide a solution to the common issue of not knowing where to look for new music.