**MAIS202: Deliverable 3**

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**1.Final Training Results**

To improve the accuracy of my results, I thought of a very important feature which was not included in my dataset: the artist’s popularity. Consequently, I created the 2 python scripts to get the popularity score of every artist on spotify. It uses the “spotipy” library which allows to use the python API in python. I search the artist by name, get his id and then I can get his popularity from that id. I then add these ids to my dataset, and train my model again, with all the algorithms. However this caused a net increase in the mse using both linear and polynomial regression. This means that I was better off not using that feature. Also, since the objective of my app is to predict the popularity of new, unreleased, songs, my target user would probably not be very popular on spotify.

My initial goal was given this dataset to predict the popularity of a new song. A major problem is that the dataset uses features which are proper to Spotify’s audio analysis. “Danceability” is an example of such a feature. These sportify-specific features seem to be only possible to calculate using the Spotify API for a song that already is on Spotify. I found an online website called Traktomizer that claims to be able to calculate these parameters given an mp3 file. For the final implementation, I will compare the results returned by Traktomizer and the Spotify Audio Analysis to see if acceptable results are returned. If so, I will be able to support uploading mp3 songs in my app to predict their popularity. Otherwise, the app will be restrained to predicting the popularity of a new song once it is uploaded to Spotify.

**2. Final Demonstration Proposal**

As discussed in the previous deliverables, my final project will be in the form of an iOS app. The app will be developed using apple’s Swift 4 language, and apple’s XCode IDE. This is Apple’s recommended way of developing iOS apps and I have gained experience with it during an internship last summer.