Journal Report 3
9/16/19-9/20/19
Victoria Agrinya
Computer Systems Research Lab
Period 1, White

Daily Log

Monday September 16

Looked up the Spotipy library's playlist analysis functions. The library takes a playlist's Spotify URI and returns data on every song in it, from artist names to the actual song title and what countries it's available for distribution in. The challenge is slogging through all that information and extracting exactly what I want from it: each song's URI to feed into the audio feature extraction function. They're buried within a list of dictionaries of lists of dictionaries, which is super dense and inconvenient and nearly impossible to read.

Tuesday September 17

After way too long figuring out where each list and/or dictionary of URLs, song titles, artist names, and more ended, I finally managed to reach each song's individual URI in the massive block of data that was returned. One thing I would change about the Spotipy library if I could is how data is presented: it's so tedious to have to visually search through the data and the documentation isn't really clear about what kinds of data structures the functions return. I outputted each URI to a text file, which will make it infinitely easier for me to get audio features for my prediction algorithms.

Thursday September 19

I accomplished this week's goal earlier in the week, so I spent most of class learning about other parts of Spotipy. Using my Spotify developer client credentials, I was able to make requests that require user authentication. Basically, I prompted a user (myself) to log in to their Spotify account and allow my program access to information like favorite tracks and user-created playlists. It was really interesting to learn the code that other developers use to access user data from services like Spotify.

Timeline

Date	Goal	Met
9/2/19-9/6/19	Create an EchoNest developer account and acquire authentication tokens to use their song analysis features	No, but learned that several EchoNest developer tools had been acquired by Spotify and all EchoNest song features can be accessed through the Spotify Web API
9/9/19-9/13/19	Learn how to use Spotify Web API with Python and collect preliminary song feature data from several Billboard Top 100 songs	Mostly, still have to figure out how to get data from a playlist
9/16/19-9/20/19	Figure out a way to extract data from playlists with several songs without having to input each song's URI individually	Yes
9/23/19-9/27/19	Build a logistic curve that takes one specific feature of several popular songs to plot another song's potential popularity on the curve (I'll be comparing a few different methods of supervised learning before I integrate MFCC)	In progress
9/30/19-10/04/19	Learn how to extract MFCC data using the Librosa Python library	In progress

Reflection

This week, I spent a long time learning how the Spotipy Python library's playlist analysis works so I could extract audio features from songs one by one. I was really worried at first that I would have to input song URI's individually and by hand each week when the Billboard Hot 100 playlist is updated on Spotify, but that won't be an issue thanks to all the time I spent working out how to extract the URI's to a text file on my computer. The next step is starting my first supervised learning algorithm next week using a logistic curve!

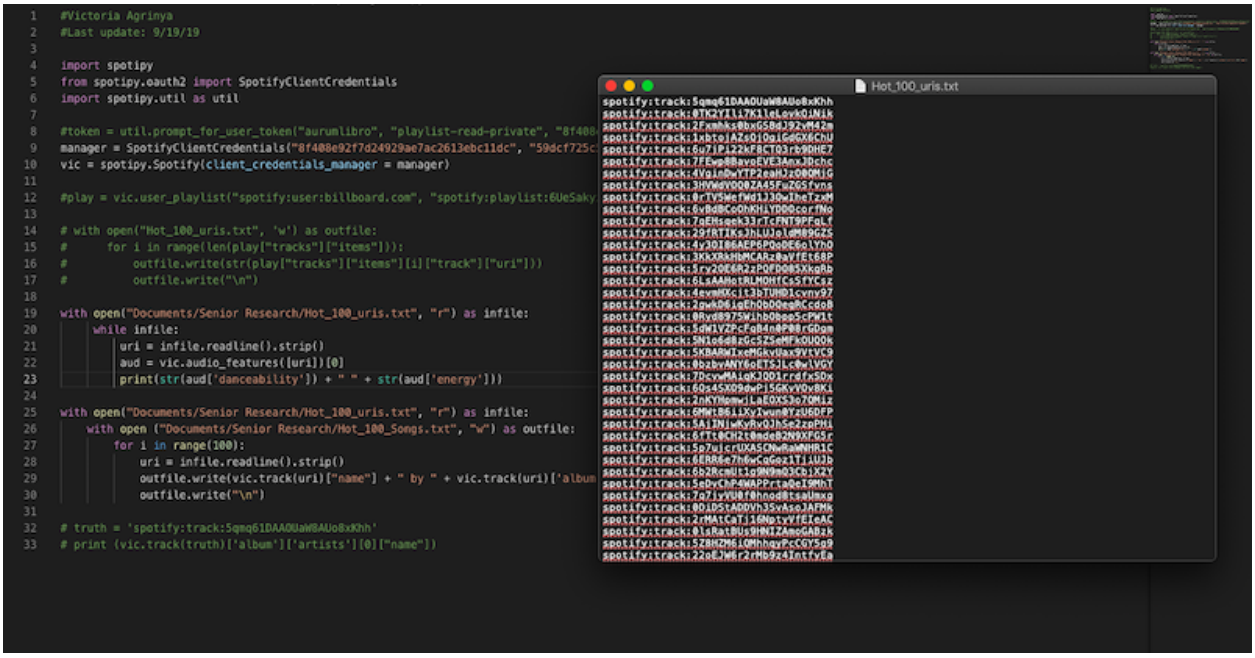

Figure 1: URI extraction using Spotipy's playlist analysis functions.