CSCI 1951A: Data Science - Spring 2019

Final Project Pre-Proposal:

Title: The Sound of Censorship

Group members:

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Blogpost Link: https://cancan233.github.io/Sound-Of-Censorship

Capstone: None of us are taking this course as a capstone.

Vision:

- **Idea:** There is a lot of data on music ratings ranging from sites like Yahoo or APIs like Spotify. This is largely due to the fact that companies like Spotify and Apple Music have been working on how to make better music recommendations with data science techniques. However, although the data is out there, not a lot of user data can be given to the public. However, one dataset collected from Last FM called LFM-1b dataset gives us important information like the country/age/listening habits of the user (http://www.cp.jku.at/datasets/LFM-1b/). There is also explicit discussion on internet censorship and other types of freedom of expression restrictions analyzed and indexed per country from international organization like (IMF??) and {remember the site}
- **Expected Result of the Project:** We would like to get an analysis on how censorship affects the listening habits of a user, how this is affected by age (are younger people willing to use the internet as a resource to go around censorship). We would like to find out the prominent features in users that are affected by censorship per country.

Data:

- **Where & How:** the following are examples of sites/APIs we would like to collect data from:
    - http://www.cp.jku.at/datasets/LFM-1b/
      This very large dataset consists of tracks/albums/users/listening events. Although it's pretty much well organized and clean we would like to make certain modifications and drop certain features that hypothetically don't seem too prominent to us.
    - IMF + Freedom Dataset: TODO!!!!
    - (potentially: https://developer.spotify.com/documentation/web-api/reference/
      Spotify's API is very extensive and allows to get information on artists and users. The endpoints are referenced clearly. We can use these to learn what type of features of songs are less listened to in the case of heavy censorship.)

- **Cleaning:** We plan on cleaning the data by dropping features that don't seem like impacting variables in the problem we are tackling. We also think of replacing other types of "string" data points with numbers if it seems suitable for the analysis.
- **Storing the Data:** Although it is hard to pin down at this point of the project, we would like to use a database with SQL. However, NoSQL could also be a choice because of the size of the dataset. We're also thinking of Google Cloud and Colab.

Methodology:

- **Analysis:** there are several types of techniques we would like to use to analyze the data. However the most important one would be predictive modeling: we would like to predict how censorship can affect listening events.
- **Visualization:** We would like to visualize the modelling we have have found. Other visualizations could include

Plan of Action:

- **First TA check-in:**
  - Collect + clean the data: both of the databases.
  - Store the data in an SQL database.
  - Jot down certain hypothesis around what type of functions/algorithms to use and which features seem to matter.
  - (potentially: scrape Spotify for song features, not as important as the other 2 databases)
- **Midterm Report:**
  - Start the analysis listed out above.
  - Visualise at least a small part of our dataset (if it takes too much processing).