MATH 748 Project Proposal: Understanding YouTube Music Suggestion Algorithm and creating a deep learning music recommendation system.

- Team :
  Jongwook Choe (no other team members).

- Description of the Problem :
  Now days vast majority of people rely on music streaming platforms such as Spotify, Youtube music, and Apple music. Music streaming makes up 84% of music industry revenue . Music streaming services compete to provide people music recommendation that fit your taste. When you open up your favorite streaming app it immediately turn on provide ready-made playlist based on your specific taste.

  "What is this music recommendation system? And how is it works?"

  Recommendation system is a filtering system to predict the preference that a user would react to a particular aspect. In this project we will work on understanding undergoing algorithms of music recommendation system and create one.

- Description of the Data:
  In this project, we will be using Spotify Million Playlist Dataset from AIcowd.
  https://www.aicrowd.com/challenges/spotify-million-playlist-dataset-challenge

  The dataset contains 1,000,000 playlists, including playlist titles and track titles, created by users on the Spotify platfrom between January 2010 and October 2017. This dataset of 1 million playlists consist of over 2 million uniques tracks by nearly 300,00 artists.

- Methodology:
  Every music streaming platforms use different machin learning based recommendation systems.Boradly their algorithms are categorized into two classes in a recommendation system.

  - Content-based Filtering
  - Collaborative Filtering

  In this project we will employ content based filtering using classification method.

  Throughout the analysis, the goal is to use deep learning to predict the subsequent tracks in the playlist when a seed playlist title and initial set of tracks in a playlist is given.

- Possible Challenge:
  People create playlists for all sorts of reasons some playlists group together music categorically, by mood, theme, or occasion, or for a particular purpose. I feel the end result of auto generating recommandation system might be bias.

Reference

- Serhii Ripenko, Nadiia Hasiuk. "All about a Music Recommendation System." *ELIFTECH*, ElifTech, 6 Sept. 2024, www.eliftech.com/insights/all-you-need-to-know-about-a-music-recommendation-system-with-a-step-by-step-guide-to-creating-it/.
- Duarte, Fabio. "Music Streaming Services Stats (2024)." *Exploding Topics*, Exploding Topics, 1 Feb. 2024, explodingtopics.com/blog/music-streaming-stats.