

The Genre Factor: Unveiling the Influence of Music Genres on Spotify and YouTube Performance

Project Idea Presentation - ML Seminar 2023

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Definition

- Does the genre have an influence on a songs performance?
- Does the influence differ between YouTube and Spotify?

Motivation

Maximizing song performance:

- Understanding the impact of music genres on streaming platforms can help artists, labels, and producers maximize songs performance.

User behavior and genre analysis:

- Analyzing the relationship between genres and user behavior can provide valuable insights for music enthusiasts and researchers.

Description of the Data Set

Dataset from Kaggle: Spotify and YouTube

- Contains statistics of songs on Spotify and YouTube
- including streams on Spotify and number of views on YouTube
- 20.7k entries by 2k artists
- Does **NOT** include the genre
- Licensed under CC0: Public Domain

Wikipedia Query for the Top-Genre of the Artist

- Query artist's Wikipedia page for genre names
- Choose a list of broader genres, so that the genres are not too specific
- Match artist to one of the genres on the list, based on the query
- Usage possible under CC-by-SA-3.0

Target of the resulting Dataset

- Target: genre
- Working hypothesis: train neural network to classify
- No previous work possible with this dataset due to missing genre

Motivation for Machine Learning

- ML needed for complex problem with unclear genre definitions
- Genre classification challenging even for humans

Alternative Method: kNN

- Comparison with kNN-approach
- Simplest solution for classification tasks
- kNN may be slow for large datasets; expect speed and performance improvements with our method

Appendix: The features of our dataset

Features

- Track
- Artist
- Url_Spotify
- Album
- Album_type
- Uri
- Danceability
- Energy
- Key
- Loudness
- Speechiness
- Acousticness
- Instrumentalness
- Liveness
- Tempo
- Duration_ms
- Stream
- Url_youtube
- Title
- Channel
- Views
- Likes
- Comments
- Description
- Licensed
- official_video