SPOTIFY RECOMMENDATION SYSTEM

Springboard Capstone #2

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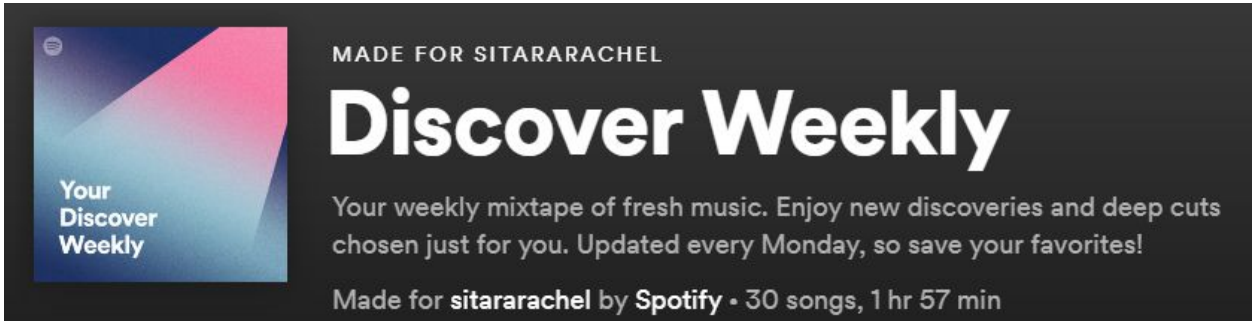
BUSINESS PROBLEM

- The act of listening to music is not without its inconveniences
- Finding new, enjoyable songs can be difficult
- Spotify’s current recommendation system - Discover Weekly



OBSTACLES

- Data retrieval
- Baseline for what I like and dislike
- Major limitation to creating usable model:
    - No access to others’ account/music data

WORKING SOLUTIONS

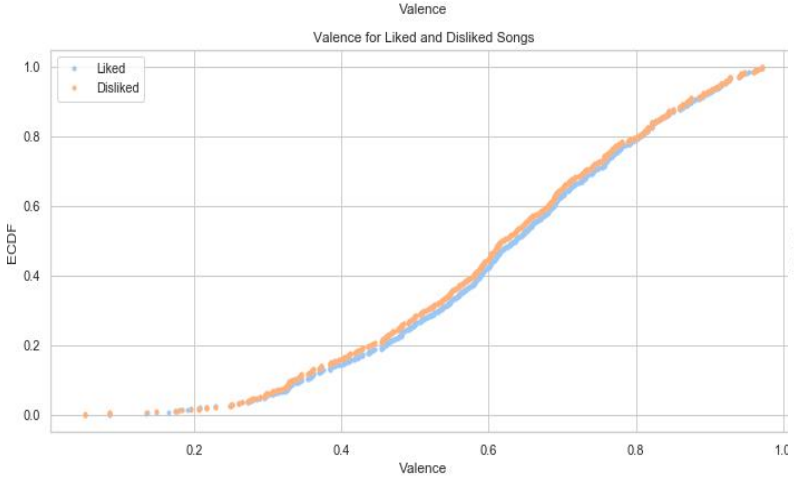
- API to create two playlists
  - Liked songs
  - Disliked songs
- Utilized Python package Spotipy

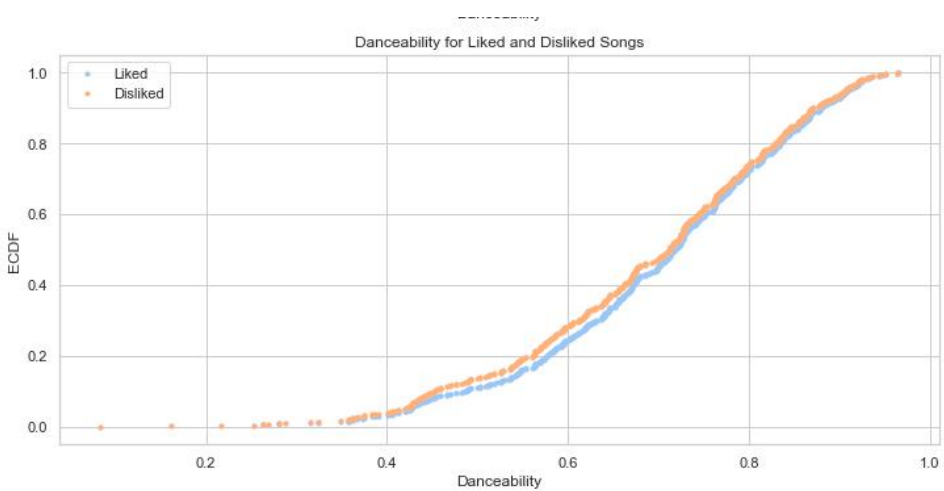
KEY PLAYERS

- Acousticness
- Danceability
- Duration in milliseconds
- Energy
- Instrumentalness
- Key
- Liveness
- Loudness
- Speechiness
- Tempo
- Time signature
- Valence

INTITIAL HYPOTHESIS

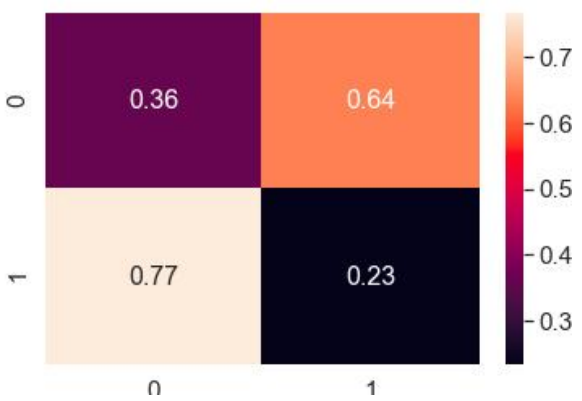
- Did valence, tempo, and danceability play key parts in whether I liked a song or not?
- No evidence of statistical significance

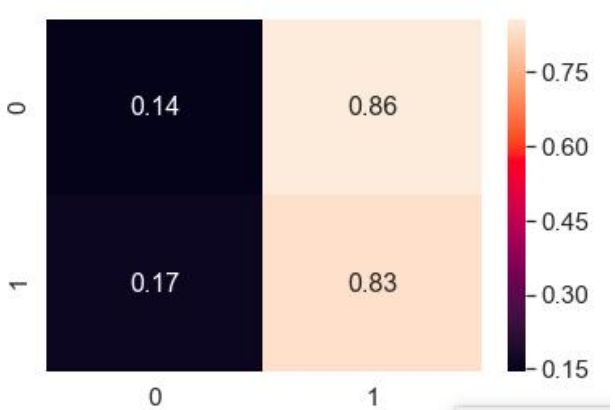


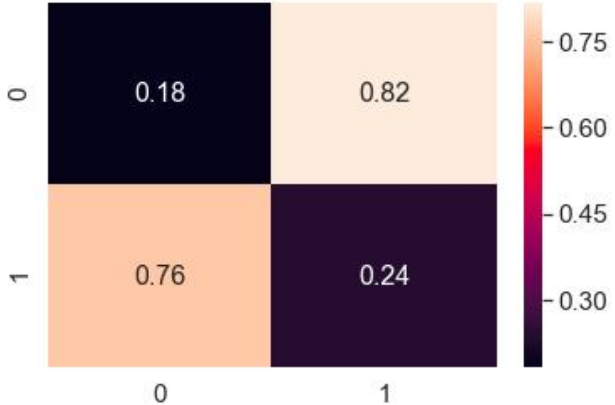


MACHINE LEARNING

- Decision Tree, Logistic Regression, K Nearest Neighbors
- Confusion matrices of models before tuning:







- After tuning the models, the accuracy scores were as follows:
  - Decision Tree: 45.2%
  - Logistic Regression: 49.2%
  - K-Nearest Neighbors: 31%