



MoodSync

A Mood-Based Spotify Song Recommendation System

By: Tabassum Meer



Problem Area

- How can we use machine learning to improve music recommendation for users to quickly create personalized playlists based on their mood?
- Currently, there is a lack of intelligent automated features that enhance the user experience of music streaming platforms such as Spotify
- Spotify has experimented with an AI feature called 'DJ'
- Opportunity to enhance music recommendation by integrating this feature into playlist creation
- Refine 'DJ' to generate playlists based on user inputs such as mood, offering a more innovative and personalized music experience



Problem Area



Vision



Impact



The Dataset



Next Steps



Upgrade



Tabassum



Vision

- Use clustering and unsupervised learning to group songs by audio features
- Sample the groups to determine and assign them a mood label
 - Select 10 most common moods through independent research
 - Research the most common audio features of the selected moods to accurately label the groups
- Train and evaluate different supervised learning techniques to determine the best model



Problem Area



Vision



Impact



The Dataset



Next Steps



Upgrade



Tabassum



Impact

Enhancing user experience meets the widespread demand for efficient and personalized playlist creation, impacting millions of users.



User retention and loyalty



Content acquisition



Positions Spotify as an innovator



Marketing



Strengthening investor relations



Feature development



Problem Area



Vision



Impact



The Dataset



Next Steps



Upgrade



Tabassum



The Dataset

- The dataset will be scraped from the Spotify Web API's get-audio-features [endpoint](#)
 - Tracks will be sampled from Spotify Million Playlist [dataset](#)
 - Since this involves scripting and the API is rate limited, preliminary EDA was conducted using a [dataset](#) available online that followed the same process



No nulls or duplicates



34.2k rows of songs



11 numerical features
5 categorical features



Problem Area



Vision



Impact



The Dataset



Next Steps



Upgrade



Tabassum



Next Steps

- Make a decision on the trade-off between complexity and usefulness of using additional data from the Spotify Million Playlist dataset vs. the dataset that was used for preliminary EDA
- Research clustering techniques and models required to support the vision
- Investigate how audio features can convey mood, aiming to understand the distinctive audio characteristics linked with specific moods
- Add the mood labels to the dataset
- Develop code to implement models

Thank You

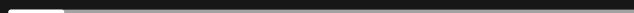


Despacito

Luis Fonsi, Daddy Yankee



0:23



-3:25



Slide Chef