Spotify Top 50 Tracks 2020 Analysis

This project analyzes Spotify's Top 50 Tracks from 2020 to uncover what makes a song popular.

Using exploratory data analysis (EDA), we investigate trends in artist frequency, genre distribution, and musical features such as danceability, energy, loudness, acousticness, and tempo.

Special focus is placed on:

- Identifying most frequent artists and the common traits of their songs.
- Comparing core audio features across key genres: Pop, Hip-Hop/Rap, Dance/Electronic, and Alternative/Indie.
- Exploring feature correlations to see which attributes tend to occur together in hit tracks.

The goal is not only to understand what defines a hit song in this dataset, but also to uncover consistent patterns that might help predict future chart success or inform playlist curation and recommendation systems.

Key Insights and Conclusions

What we tried to achieve:

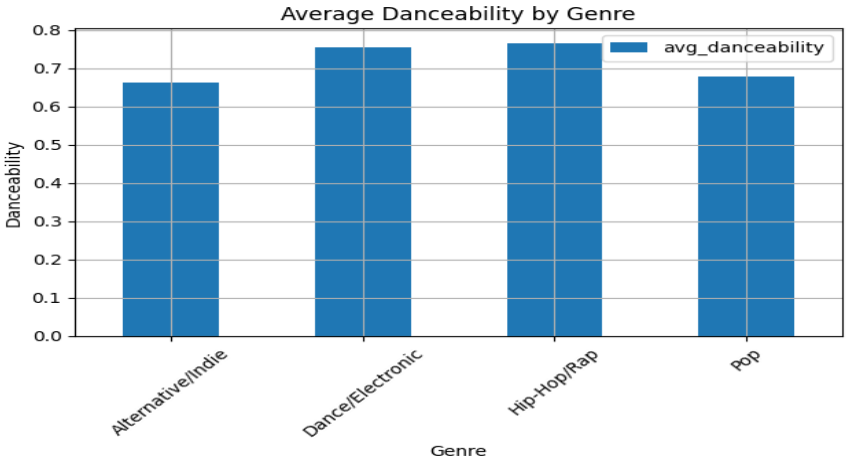
This analysis aimed to explore Spotify's Top 50 Tracks of 2020 and understand which musical and categorical features contribute to song popularity.

We examined genres, artists, audio features, and correlations to uncover patterns that define a "hit" song.

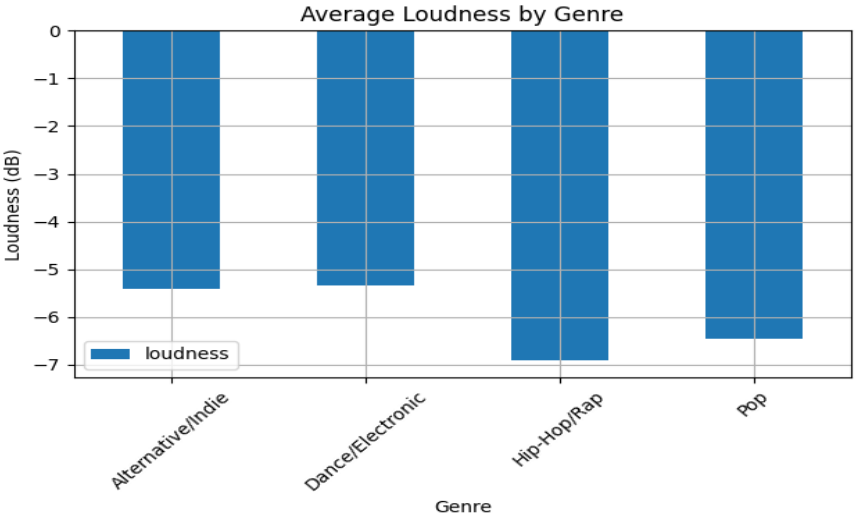
What we found:

- Hip-Hop/Rap and Dance/Electronic are the most danceable genres, with average danceability > 0.75.
- Dance/Electronic and Alternative/Indie genres have the highest loudness (around -5.3 dB), while Hip-Hop/Rap is quieter.
- Alternative/Indie shows the highest acousticness (0.58), contrasting with the highly synthetic Dance/Electronic tracks.
- Energy and Loudness are strongly correlated (corr = 0.79), while Acousticness is negatively correlated with both.
- Songs from the most frequent artists (e.g. Billie Eilish, Dua Lipa, Travis Scott) tend to share common traits:

- Danceability above 0.65



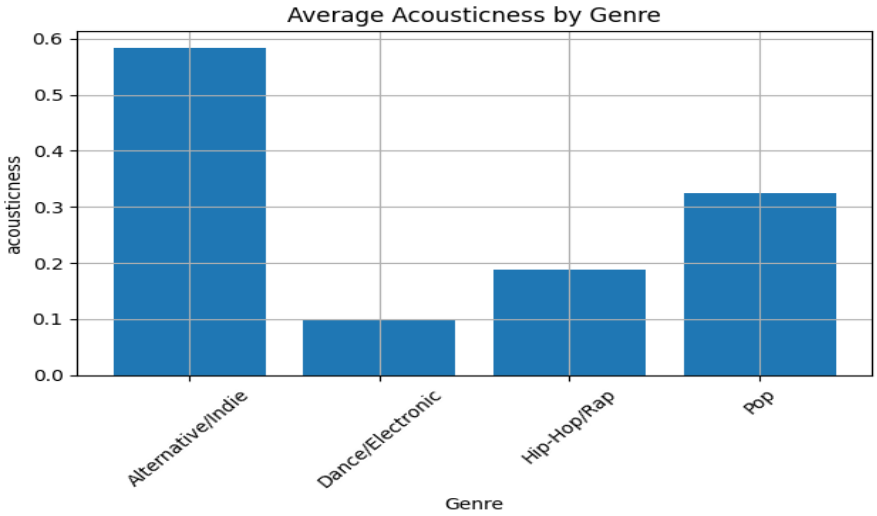
- Energy above 0.6
- Tempo between 100–150 BPM
- Loudness around -4 to -6 dB



These patterns suggest that songs with balanced rhythm, energy, and accessibility are more likely to succeed.

Additional Insight:

- Although Alternative/Indie tracks have high acousticness (0.5835), they are still mastered loudly (avg loudness = -5.42 dB).



- This suggests that even “softer” genres are optimized for loudness, likely due to commercial streaming standards (the loudness war).

How the analysis can be improved:

- Include more data (Top 200 instead of 50) to increase representativeness.
- Analyze listener behavior (skips, likes, repeat rate) if such data were available.
- Use clustering or machine learning to group tracks by hidden patterns.
- Compare across years to see how hit song characteristics evolve over time.