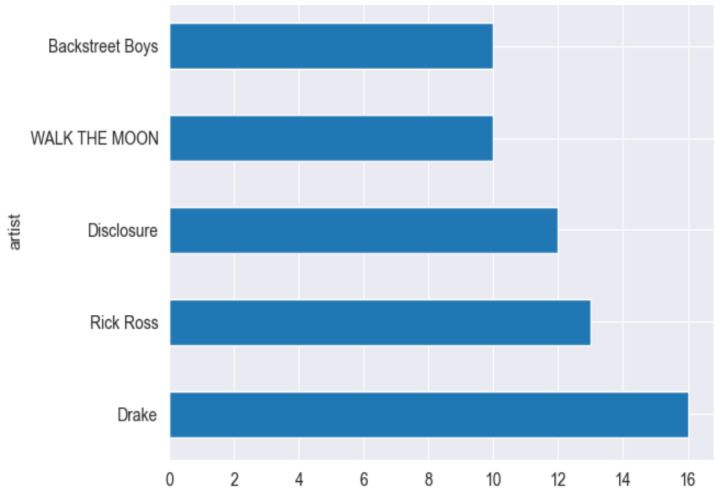
🎵 Spotify Data Analysis

📌 Overview

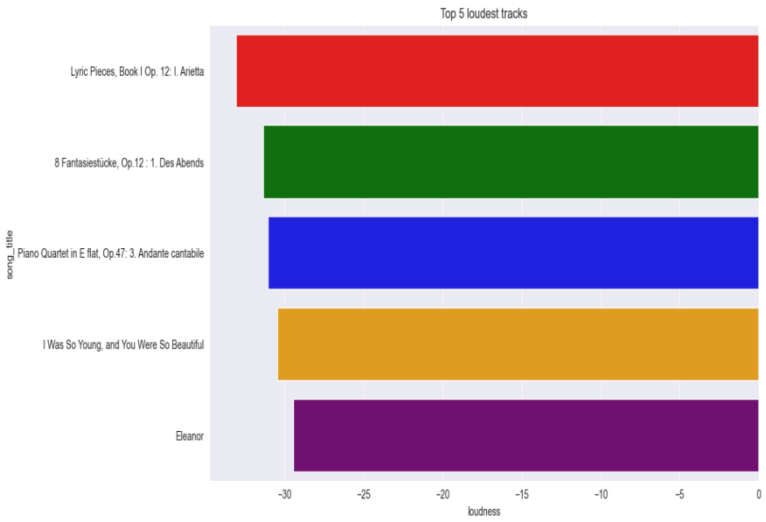
This project explores Spotify's dataset through five focused analyses, aiming to uncover interesting insights about songs, artists, and audio features. The dataset contains over 2,000 tracks with attributes such as danceability, energy, loudness, tempo, acousticness, instrumentalness, and more.

📊 Analyses Performed

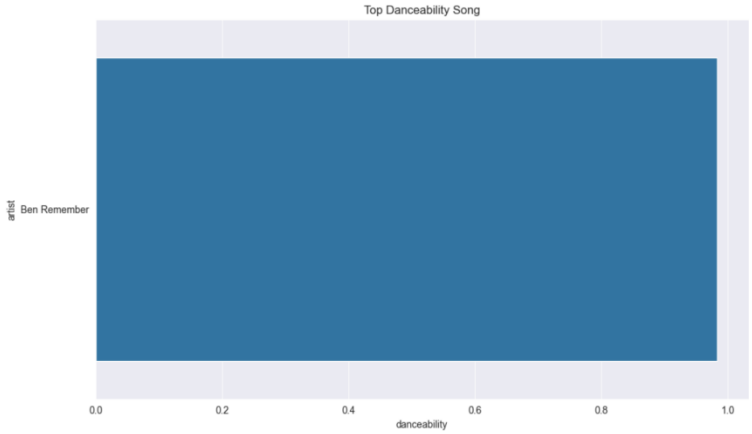
1. **Top 5 Most Popular Artists** – Identified artists with the highest number of tracks in the data set.



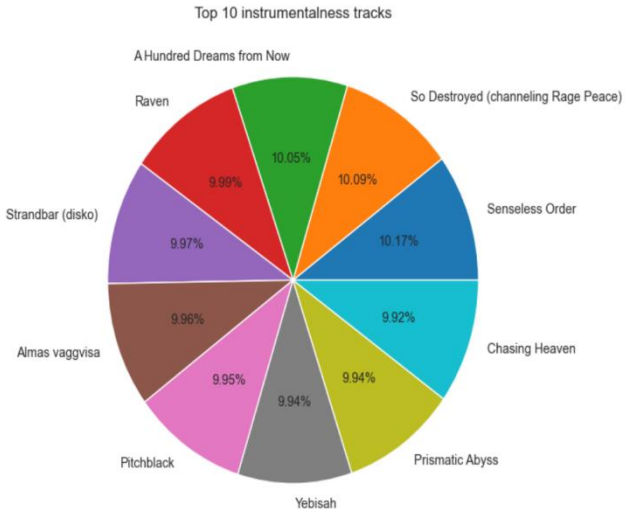
2. **Top 5 Loudest Tracks** – Ranked songs based on loudness levels.



3. **Most Danceable Song** – Extracted the track with the highest danceability score.



4. **Top 10 Instrumental Tracks** – Selected songs with the highest instrumentalness values.



5. **Feature Comparisons (Positive vs Negative Target)** – Compared tempo, loudness, acousticness, danceability, energy, valence, etc.

□ Key Insights

• Drake dominates as one of the most frequently appearing artists.
• Songs with high danceability are often upbeat electronic tracks.
• Loudest songs are generally modern productions, while soft classical pieces appear at the opposite end.
• Tracks with high instrumentalness are niche but spread across genres like electronic and experimental.
• Feature distributions clearly show how positively labeled tracks differ from negative ones in energy, danceability, and valence.

☐ Tech Stack

• Python
• Pandas, NumPy – data processing
• Matplotlib, Seaborn – visualizations
• Jupyter Notebook – analysis environment

□ How to Run

1. Clone this repository:

```
git clone
https://github.com/your-username/spotify-data-analysis.git
cd spotify-data-analysis
```

2. Install dependencies:

```
pip install -r requirements.txt
```

3. Run the notebook:

```
jupyter notebook "Spotify Data Analysis.ipynb"
```

□ Conclusion

This project provides a comprehensive yet concise look into Spotify's dataset. By performing five distinct analyses, we uncover meaningful insights into artists, tracks, and audio features.

The methods here can be extended for:
□ Music recommendation systems
□ Trend analysis in the music industry
□ Feature engineering for ML models in music analytics

□ *Music is data, and data has a rhythm. This project uncovers it.*