

# Project Title: Spotify Music Trends Analysis and Prediction

## Objective:

Analysed music streaming trends to uncover patterns in song popularity and developed predictive models to forecast chart performance.

## Key Insights & Analysis:

1. Trending Features: Identified common attributes of trending songs, such as high danceability, energy, and playlist presence.
2. Top 25 Songs: Examined the most-streamed tracks, uncovering shared characteristics like upbeat tempos and high visibility in playlists.
3. Popularity Over Time: Tracked the streaming trajectories of the top 10 songs across different years, revealing evolving audience preferences.
4. Artist Analysis: Highlighted the most featured artists by song count and total streams, identifying those with the highest playlist representation.
5. Collaborations vs. Solo Releases: Analysed multi-artist songs, discovering that collaborations often yield higher streams and chart presence.
6. Weekend Release Impact: Investigated streaming patterns, finding a notable boost in streams for songs released near weekends compared to weekdays.

## Predictive Models:

1. Chart Position Prediction: Built a machine learning model to predict the likelihood of a song reaching high chart positions based on audio features and playlist presence.
2. Future Charting Potential: Developed a model to forecast the chances of current top 10 songs appearing on Spotify, Apple, and Deezer charts.

## Tools & Techniques:

Data Cleaning and Exploration: Python, Pandas, and NumPy

Visualization: Matplotlib, Seaborn

Predictive Modelling: Scikit-learn, Machine Learning Algorithms

## Outcome:

This project provided actionable insights into factors driving song popularity and demonstrates the ability to leverage data for strategic decision-making in music streaming platforms.