

Proposal: Capstone Project Two

Modeling music album popularity according to Spotify

Springboard Data Science Career Track
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With around 345 million users and 155 million subscribers worldwide, Spotify holds an estimated 32-35% market share for online music subscription services¹. As such, all music-producing entities, from indie garage bands to legacy record labels, stand to benefit from optimizing their content for this platform. Fortunately, Spotify provides a web API and a Python library (Spotipy), from which we can glean useful data and insights.

Spotify Web API Non-User Data

Data Group	Methods	Data Endpoints
Albums	Get an Album or Several Albums Get an Album's Tracks	Album Name, Album Type, Artist(s) Info, Track Info, Images, Release Date, Total Tracks, Popularity, Preview URL, Spotify URI, Spotify ID
Artists	Get an Artist or Several Artists Get an Artist's Albums Get an Artist's Related Artists Get an Artist's Top Tracks	Artist Name, Genres, Popularity Score, Followers, Images, Spotify URI, Spotify ID
Browse	Get Available Genre Seeds Get a Browse Category OR Categories Get a Category's Playlists Get a List of Featured Playlists Get a List of New Releases Get Recommendations Based on Seeds	Genre Seeds, Search Seeds, Category's Playlists, New Release Track Information
Tracks	Get a Track or Several Tracks Get Audio Analysis for a Track Get Audio Features for Several Tracks Get Audio Features for a Track	Album Info, Artist Info, Available Markets, Popularity, Track Number, Explicit, ISRC, Spotify URI, Spotify ID Danceability, Energy, Key, Loudness, Mode, Speechiness, Acousticness, Instrumentalness, Liveness, Valence, Tempo, Duration, Time Signature

<https://medium.com/@maxtingle/getting-started-with-spotifys-api-spotipy-197c3dc6353b>

Since Spotify data include ratings of popularity, we can model popularity as a function of any number of variables that fall within the artist's or label's control, e.g., genre, song length, number of tracks on an album, and more. For the sake of record labels, we can even determine the role of particular artists in a particular album or track's popularity.

Applying the data science method to the Spotify database could yield insights into how musical acts can set themselves apart on one of the most-used streaming platforms. This analysis would be useful for independent artists, established acts, and record labels. In a famously capricious industry where so much of success is determined outside of the creator's control, it is invaluable to understand how a few key decisions may be associated with better streaming popularity (i.e., more revenue).

¹"Spotify Revenue and Usage Statistics (2021)", by Mansoor Iqbal, *BusinessofApps*. 04/02/2021.
<https://www.businessofapps.com/data/spotify-statistics/>