

Taste profile generator

Sohom Paul, Simran Vatsa



Team



Sohom Paul

B.S. Statistics, B.A. Economics at UCLA
Data Analytics Intern at Amazon
Pianist + Vocals
Favorite Artist: Ed Sheeran



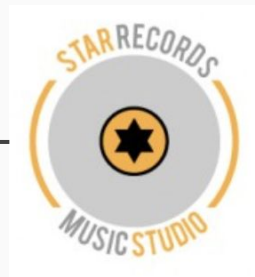
Simran Vatsa

B.S. Statistics, B.A. English at UCLA
Consumer Insights Intern at Amazon Studios
Guitarist + Vocals
Favorite Artist: Taylor Swift

Team-company fit



- Record companies want to sign artists and produce music that has a high probability of being the next big hit.
- Spotify's data (which provides insight into chart-toppers) has high barriers to entry for non-technical people.
- We have the data science and musical ability to spot these trends and share them with you as your technical music consultants.
- We built a scrappy model in a few weeks (combining our personal taste with Spotify's Global Top 200 data) to figure out:
 1. What songs make it to the Top 200?
 2. What songs are a user expected to like on the Top 200?



What are the audio features Spotify defines for its tracks?

- Danceability: (0.0 Least to 1.0 Most):

Describes how suitable a track is for dancing based on a combination of musical elements including tempo, rhythm stability, beat strength, and overall regularity.

- Energy: (0.0 Least to 1.0 Most):

Represents a perceptual measure of intensity and activity. Typically, energetic tracks feel fast, loud, and noisy. For example, death metal has high energy, while a Bach prelude scores low on the scale.

- Valence: (0.0 to 1.0 Positivity):

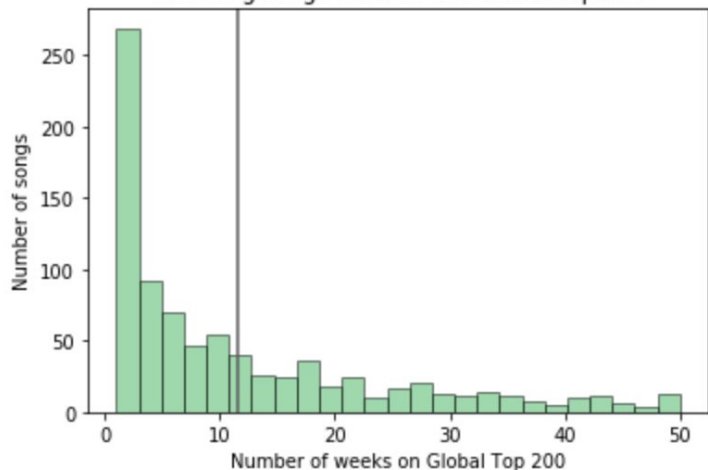
Describes the musical positiveness conveyed by a track. Tracks with high valence sound more positive (e.g. happy, cheerful), while tracks with low valence sound more negative (e.g. sad, depressed, angry).

Other features we relied on:

- Number of weeks a song is on Global Top 200
- Number of total plays
- Song duration (in minutes)
- Mode
- Tempo
- Simran's taste (0 = Dislike, 1 = Like)
- Sohom's taste (0 = Dislike, 1 = Like)

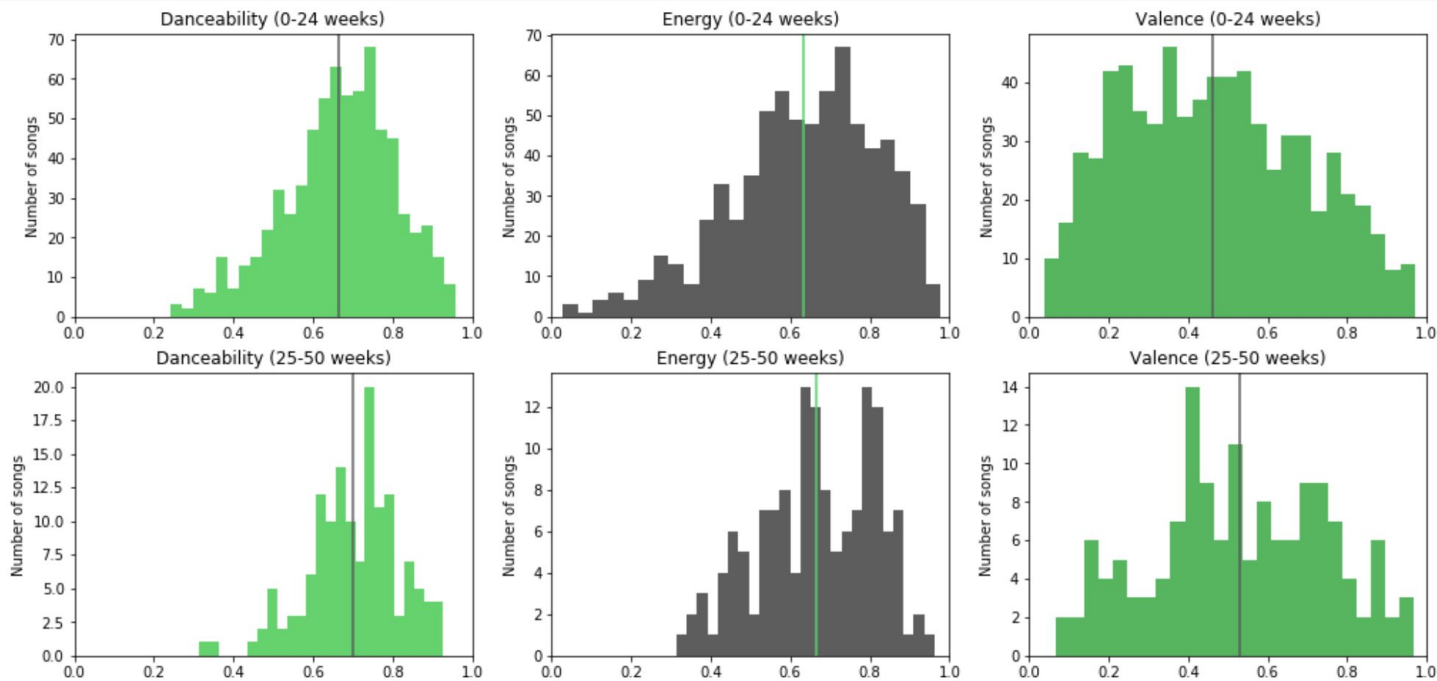
Which songs topped the 2017 charts?

How long songs were on the Global Top 200

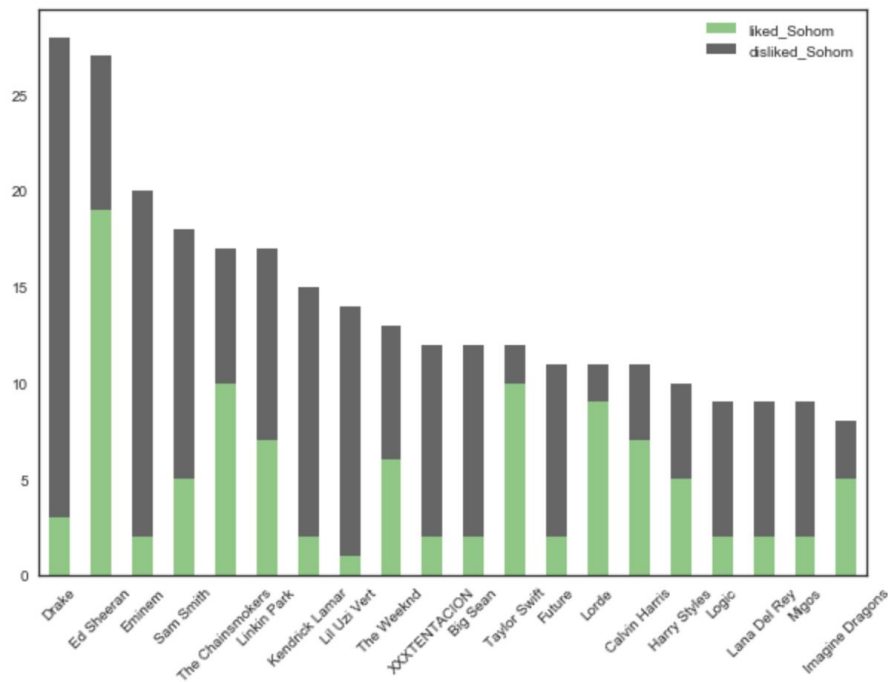


song	artist	song_count
Starboy	The Weeknd	50.0
Closer	The Chainsmokers	50.0
I Don't Wanna Live Forever (Fifty Shades Darke...	ZAYN	50.0
Say You Won't Let Go	James Arthur	50.0
One Dance	Drake	50.0
Photograph	Ed Sheeran	50.0
Redbone	Childish Gambino	50.0
Thinking Out Loud	Ed Sheeran	50.0
That's What I Like	Bruno Mars	50.0
goosebumps	Travis Scott	50.0

What audio features separated the 'top' songs from the 'bottom' songs of the 2017 Spotify Global Top 200?



Taste profile across artists (Sohom)



Key Highlights:

- Least favorite artists: Drake, Eminem & Kendrick Lamar
- Favorite artists: Ed Sheeran, Taylor Swift, Lorde

I'm certainly not a fan of rap, but I love pop, which you can clearly observe from my top artists.

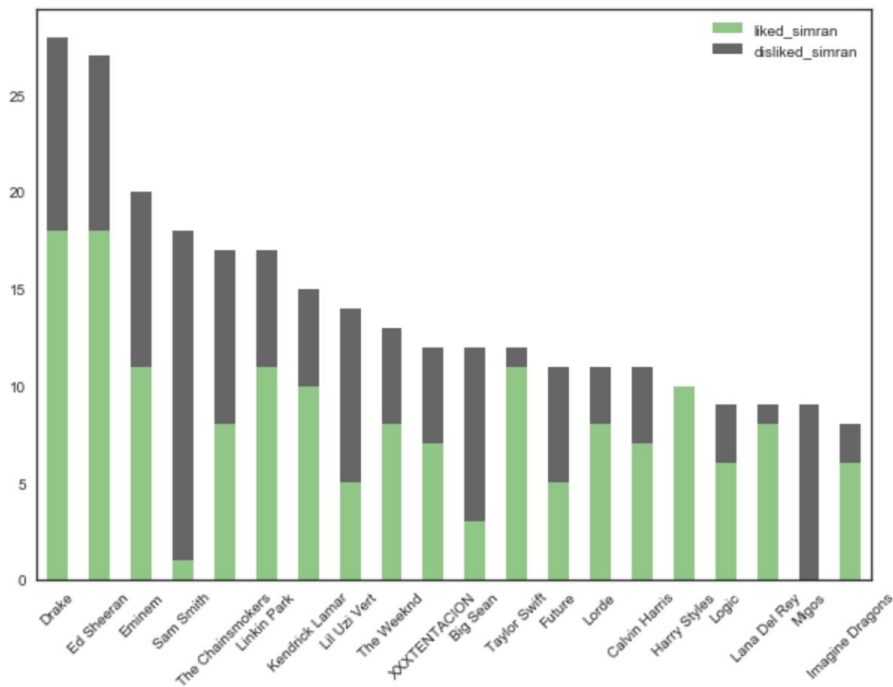
That said, I don't seem to like Sam Smith, although he's a chart-topping pop artist.

Also, I disliked 51% of Top 200 songs.

Sohom

1	423
0	432

Taste profile across artists (Simran)



Key Highlights:

- Least favorite artists: Migos, Sam Smith and Big Sean
- Favorite artists: Harry Styles, Taylor Swift, Lana Del Rey

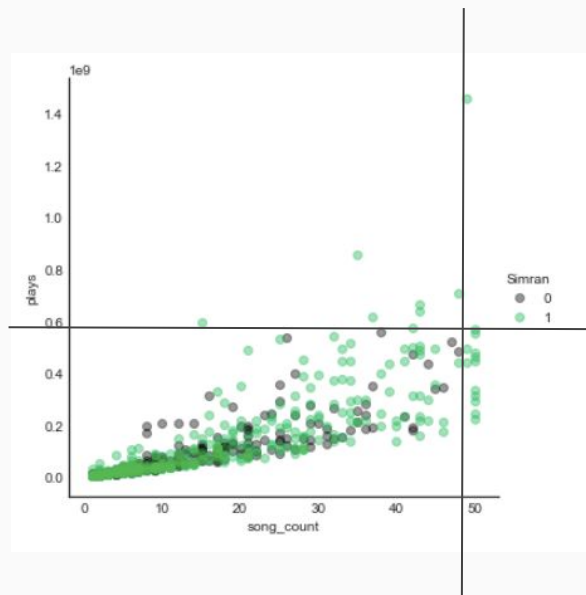
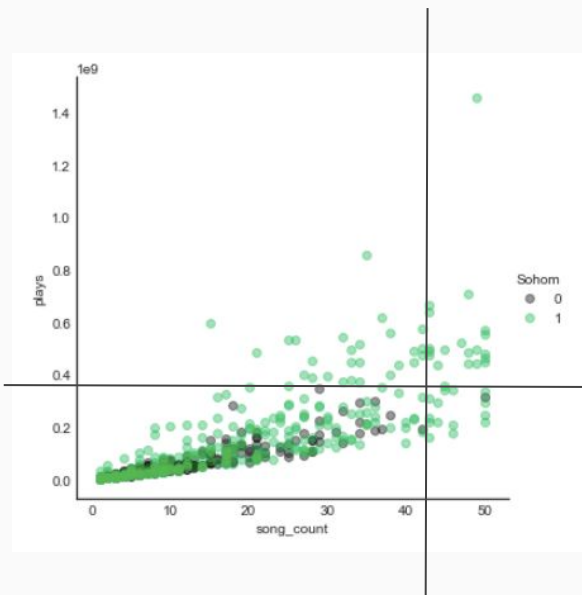
I'm less disposed to rap than I am to pop, but there are exceptions in both cases; I enjoy Logic and Drake's music while I do not like Sam Smith.

I'm also not too selective; I liked 58% of the songs I heard.

Simran

0	352
1	503

Comparison of taste profiles



Key Highlights:

- Sohom has a clear preference for songs with many plays that chart for a long time.
- Simran is less biased toward such songs, but does enjoy all the songs that spent all 50 weeks on the charts.

Predictive models

- We chose the features that were most essential to each user's listening habits.
- So far, users like 2 out of every 3 songs we recommend (~66% accuracy).
- Trying this out on more people will help us further improve prediction accuracy and audio feature selection.

What are the next steps?

- First, we will develop a database of users (here, we'll learn more about what songs they like and dislike through incentivized surveys).
- Once you hand us a list of your signed artists, we'll compare their audio feature values to those of chart-toppers on Spotify.
- Based on these audio feature comparisons and our users' taste profiles, we will provide recommendations that boost your odds of making the Top 200, while delighting targeted user segments.

Summary

- We can identify key features in top-trending songs
- We can produce a *taste profile* of listeners from data
- We can recommend songs to listeners based on key metrics
- Our analyses will bolster Star Record Music Studio's vision of leveraging data insights to sign budding artists & produce chart-topping songs.