

# Predicting the Popularity of Hip-Hop Music on Spotify

Stephen Kaplan, July 2020



# Goal

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- **Provide useful, data-informed insights to hip-hop artists which will help them:**
  - Build their following
  - Get more streams
  - Sell more tickets (post-COVID)







# What is Spotify “Popularity”?

- Relative metric on scale of 0 to 100
- Algorithmically Calculated
- Mainly based on number of plays and recency of plays
- **Why does it matter?**
  - More profitable (more streams)
  - Beneficial for Spotify’s recommendation algorithms (potential to go viral)




2013


A Color Map of the Sun (Deluxe Version)




#


TITLE






 1

1




Color of My Soul

6:09

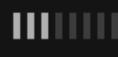


2




Press Pause

4:49

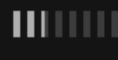


3




Let's Get Busy

3:52




4




Around the Block (feat. Talib Kweli)

4:14

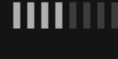


5




Yellow Bird

5:40




6




Go Down Sunshine

5:05




7




So Bright (feat. Eligh)

5:51




8




Vibe Vendetta

5:24




9




Done Wrong

6:35




10




Prophet

5:57




11




One Day They'll Know

6:59

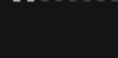


12




Always All Ways

5:32

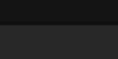


13








My Only Hope

4:52






Getti



40:01

66:57

1x



# What data is available?

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- Spotify's API provides high quality data about every track on their platform
- **Track Popularity**
- **Unique Track Audio Features Dataset**
- **Relevant Metadata**

```
{
  "duration_ms" : 255349,
  "key" : 5,
  "mode" : 0,
  "time_signature" : 4,
  "acousticness" : 0.514,
  "danceability" : 0.735,
  "energy" : 0.578,
  "instrumentalness" : 0.0902,
  "liveness" : 0.159,
  "loudness" : -11.840,
  "speechiness" : 0.0461,
  "valence" : 0.624,
  "tempo" : 98.002,
  "id" : "06AKEBrKUckW0KREUWRnvT",
  "uri" : "spotify:track:06AKEBrKUckW0KREUWRnvT",
  "track_href" :
  "https://api.spotify.com/v1/tracks/06AKEBrKUckW0KREUWRnvT",
  "analysis_url" : "https://api.spotify.com/v1/audio-
  analysis/06AKEBrKUckW0KREUWRnvT",
  "type" : "audio_features"
}
```



# How is predicting popularity possible?

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- Machine Learning algorithms can help figure out the **most important qualities** of a song and **how they affect popularity**.
- This technology has been embedded in an app that you can use for yourself or your clients...



DEMO

# Takeaways

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- The best way, by far to have a hit on Spotify is to grow your follower base. **Spotify popularity is a positive feedback loop.**
- Up and coming hip-hop artists can jumpstart their popularity by releasing songs that fulfill the following:
  - Have a good, yet **simple beat** that is **easy to dance to.**
  - Positive & uplifting
  - Not oversaturated with lyrics.