



The Subgenres of Hip Hop

By Shawn Garrick



About Me:

- Data Scientist
- Air Force Veteran
- Former Dj
- May or may not have tried to rap on youtube a long time ago



Rapper Logic 2020 Interview

"...me, Tyler, the Creator, Cardi B, Polo G, Doja Cat....we should not be in the same category at the Grammys,"



"I really believe that. That doesn't mean that any one of us is superior or less than the other person, it means we all make different music, we just make different music. But they just put us all together in hip-hop or whatever the case may be.."

What is Hip Hop music?

- Hip hop music, also known as rap music, is a genre of popular music developed in the Bronx borough of New York City in the 1970s. (Encyclopedia Britannica)
- In 2018, hip-hop and rap music accounted for 21.7 percent of total music consumption in the United States making it the most consumed genre of music in the US (Statista)



The Data

5000+ song database. The most 50 popular songs on Genius.com from 100+ rap artists.

To get the lyrics, I used [lyricsGenius](#), a Python library by [Johnwmillr](#)

GENIUS

billboard.py is a Python API for accessing music charts from [Billboard.com](#)

billboard

Audio features from spotipy



NLP and Topic Modeling

Td/idf dense matrix - 27021 unique terms

Classification Method

Lyrical/Introspective	Club	Romance	Mumble	Old School/Street	New School/Street
0.070560	0.016913	0.010955	0.000000	0.000050	0.001089

Lyrical/Introspective	Club	Romance	Mumble	Old School/Street	New School/Street
0	0.01	0.02	0.0007	0.04	0

Lyrical/Introspective

Notable Rappers[from top left, clockwise]: Joe Budden (+.04), Logic(+.03), Kendrick Lamar(+.02), Lauryn Hill(+.02), Eminem (+.02)



Words Associated with Topic:

life, feel, away, would, day, never,
everything, us, could, god, mind, world,
ever die, people, way, said, time, pain

The mean Lyrical/Introspective score of all songs was 0.021

27% of songs were classified as Lyrical/Introspective

Avg # of Unique Words: **274**

Club/Materialistic

Notable Rappers(from top left, clockwise):
DaBaby (+.03), Lil Baby(+.04), Meek Mill(+.03),
Megan Thee Stallion(+.02), Young Thug (+.02)



Words Associated with Topic:

money, fuck, hoes, h*, p**sy, gang, lil, sh*t,
ass, bad, d*ck, boy, pull, rich, smoke,
hundred, big, diamonds, getting, new, talkin

The mean Club/Materialistic score of all songs
was 0.021

26% of songs were classified as
Club/Materialistic

Avg # of Unique Words: **243**

Love & Romance

Notable Rappers[from top left, clockwise]: KYLE (+.02), Bow Wow(+.03), Childish Gambino(+.02), Drake(+.02), LL Cool J(+.02)



Words Associated with Topic:

love baby girl wan need hey shawty want girls
good right let tell tonight hold night body long
make sex bad take crazy mine

The mean Love/Romance score of all songs
was 0.014

12% of songs were classified as
Love/Romance

Avg # of Unique Words: **218**

MUMBLE/NEW AGE

Notable Rappers[from top left, clockwise]: Lil Skies (+.68), XXXtentacion(+.22), Ski Mask the Slump God(+.73), Playboy Carti(+.18)



Words Associated with Topic:

ayy huh ah lil yuh diamonds wait pull yah
shawty work safe finna boy want hey f*ck
bands gang bust hmm wishinracks

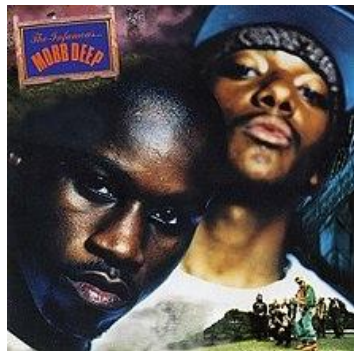
The mean Mumble score of all songs was
0.0005

4% of songs were classified as Mumble

Avg # of Unique Words: **213**

Old School Gangsta Rap

Notable Rappers[from top left, clockwise]: Kool G Rap (+.04), Mobb Deep(+.04), NWA(+.03), Big L(+.04)



Words Associated with Topic:

rap wit black man rock motherfucker ass
check gangsta big gun mic bust g run rhymes
style one rhyme street crew game

The mean Old School Rap score of all songs
was 0.02

26% of songs were classified as Old School
Rap

Avg # of Unique Words: **327**

New School Gangsta Rap

Notable Rappers[from top left, clockwise]: 21 Savage, Migos, 6ix9ine, Fivio Foreign, Chief Keef



Words Associated with Topic:

gang gucci bang bust slaughter pump taylor
murder lied lil pull wolf yuh shit chain scum
stain truly somehow addicts savage name
rollin die wet throw drug rep

The mean New School Rap score of all songs
was 0.02

3% of songs were classified as New School
Rap

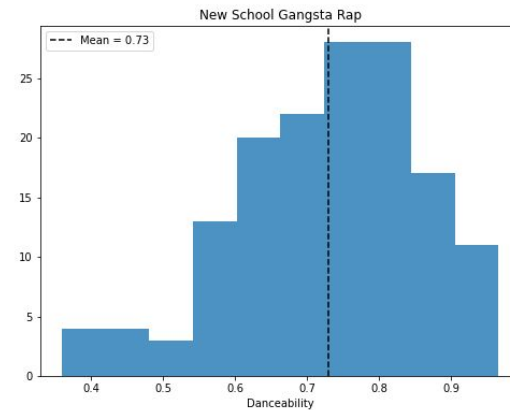
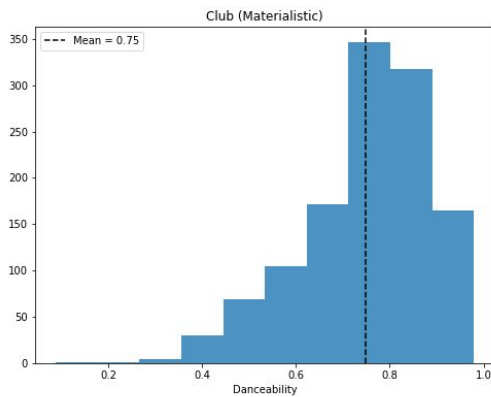
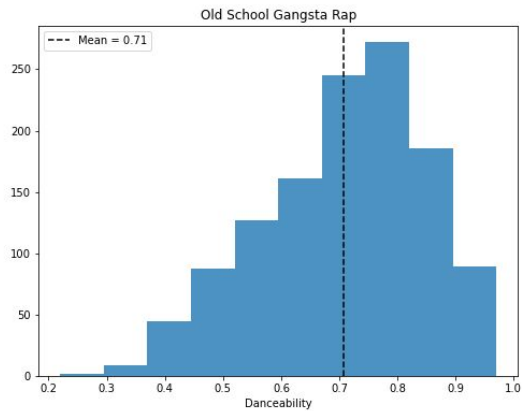
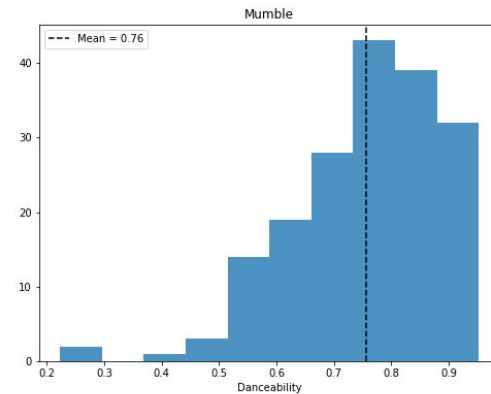
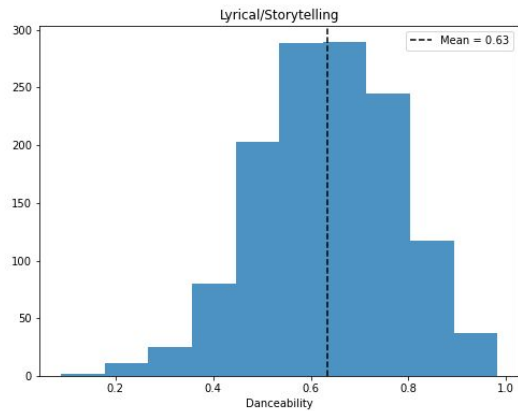
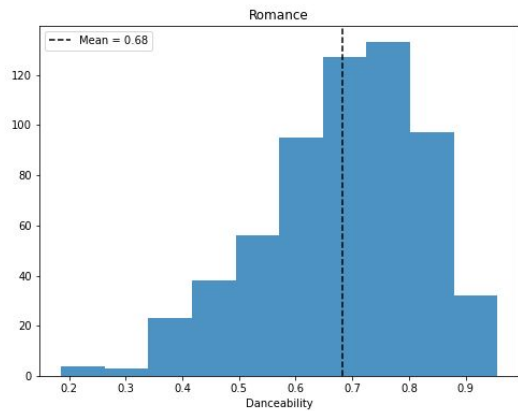
Avg # of Unique Words: **236**

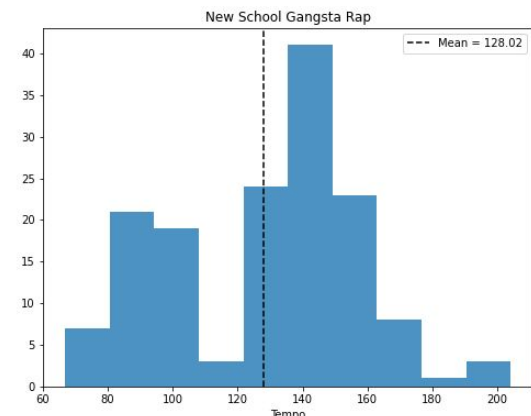
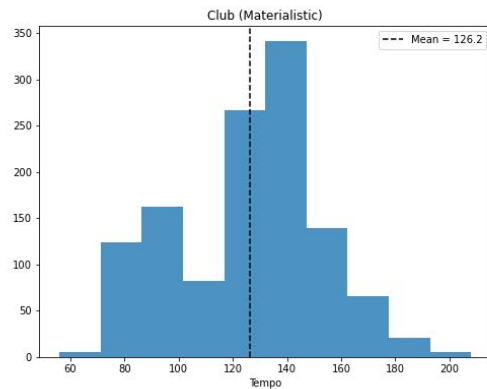
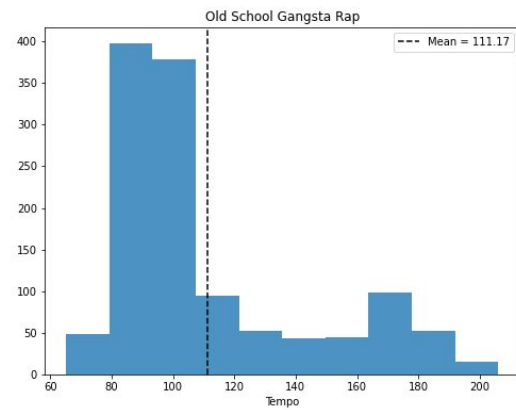
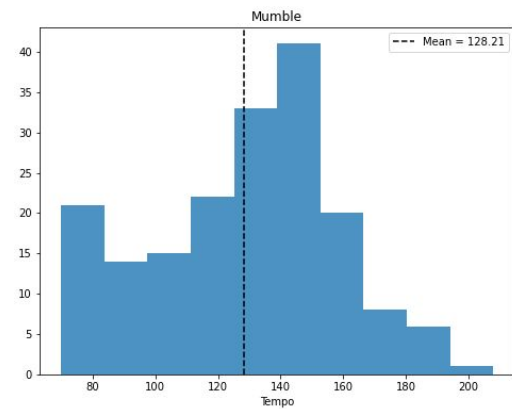
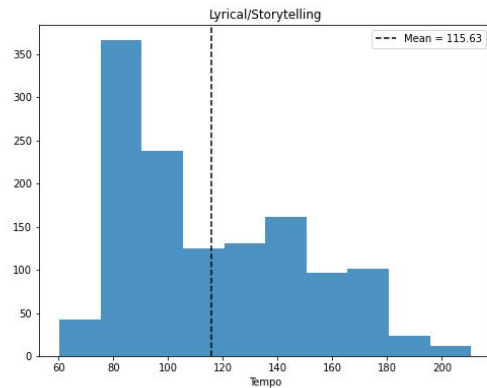
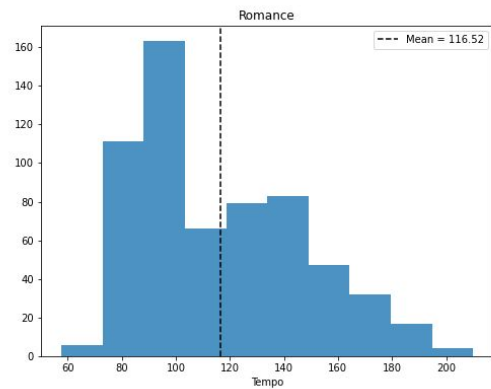


Audio Features

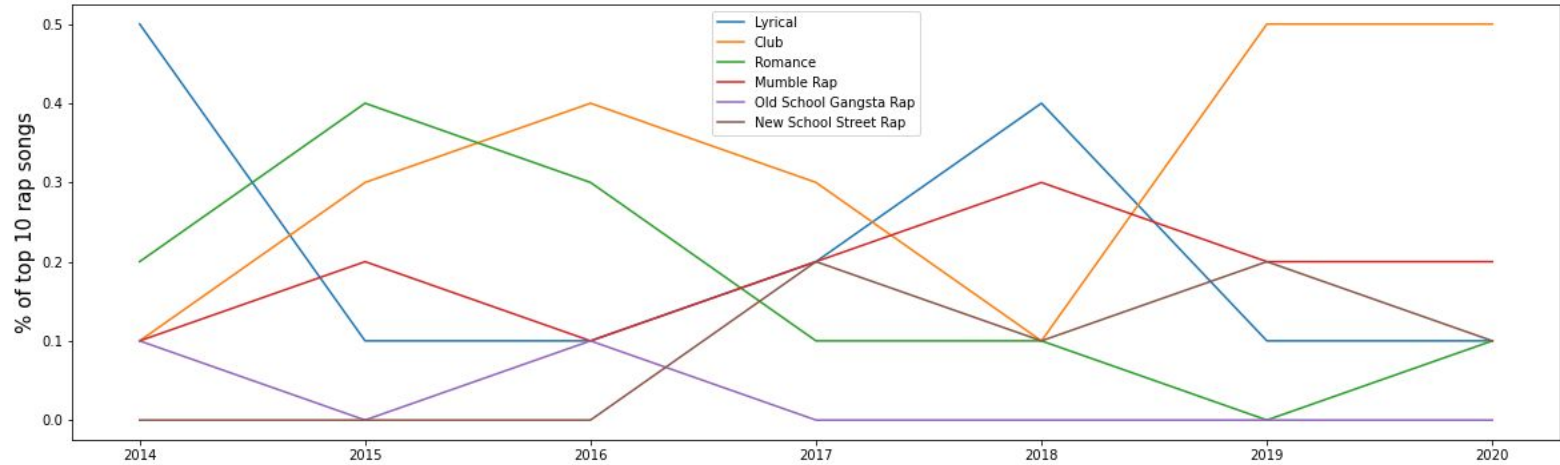
Danceability, Tempo







Billboard top 10 Rap Songs from 2014-Present



Improvements

Better Classification method

Use song metadata/audio features for more accuracy

Build model with more genres (bigger database)

Write playlist building/song recommending algorithm