

Python 2022 - Hackathon

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Introduction

Songs are ways in which artists express their views/emotions about our world and society in general. The goal of this work is explore how our songs (lyrics in particular) have changed over time – for good and bad. We will analyze dataset to investigate songs in the last few decades using text mining.

Lyrics data will be imported using API, tokenized and analized for most appearing words and its trend. The analysis will include wordcloud and frequency tables.

Top Artists Lyrics Analysis 1970

Top 10 words: [('day', 28), ('hoo', 23), ('verse', 21), ('loving', 21), ('nt', 20), ('always', 20), ('life', 17), ('right', 16), ('going', 16), ('know', 13)]

All Tokens: 3089

Normalized Tokens: 3089

Tokens after pre-processing: 2400

Tokens after stopwords removal: 1335



Top Artists Lyrics Analysis 1980

Top 10 words:[('nt', 39), ('oh', 39), ('one', 17), ('want', 16), ('people', 15), ('new', 15), ('ai', 14), ('know', 13), ('get', 12), ('ohoh', 11)]

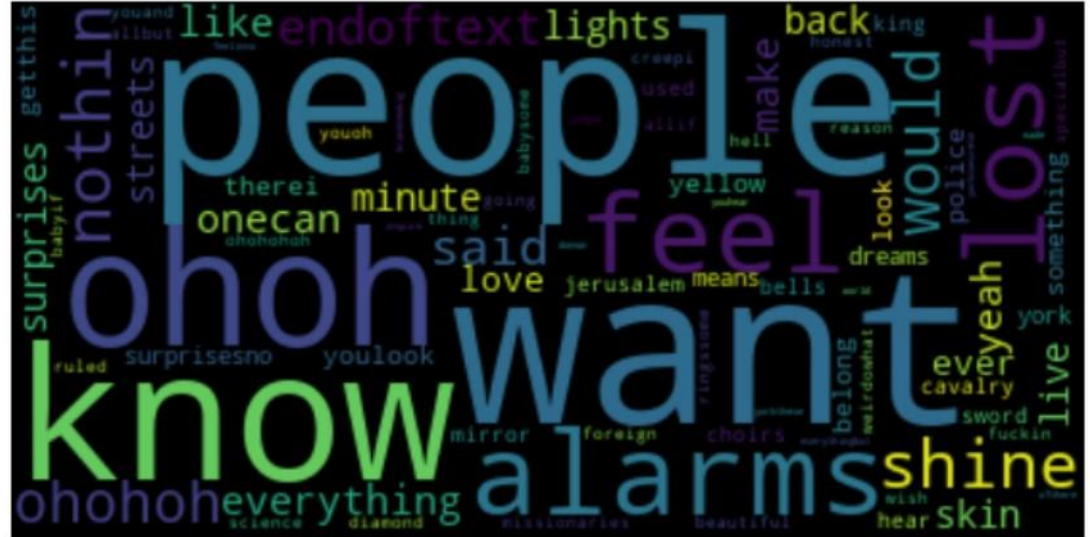
Wordcloud (length > 3)

All Tokens: 2108

Normalized Tokens: 2108

Tokens after pre-processing: 1712

Tokens after stopwords removal: 1040



Top Artists Lyrics Analysis 1990

Top 10 words: [('nt', 133), ('verse', 120), ('oh', 97), ('chorus', 86), ('like', 65), ('na', 51), ('get', 47), ('yeah', 45), ('want', 39), ('got', 39)]

Wordcloud (length > 2):



All Tokens: 11693

Normalized Tokens: 11693

Tokens after pre-processing: 8533

Tokens after stopwords removal: 5212

Top Artists Lyrics Analysis 2000

Top 10 words: [('nt', 91), ('like', 61), ('oh', 53), ('swerve', 50), ('know', 49), ('verse', 39), ('chorus', 38), ('get', 32), ('bitch', 32), ('ya', 31)]

Wordcloud (length > 2):

All Tokens: 8003

Normalized Tokens: 8003

Tokens after pre-processing: 5865

Tokens after stopwords removal: 3780



Top Artists Lyrics Analysis 2010

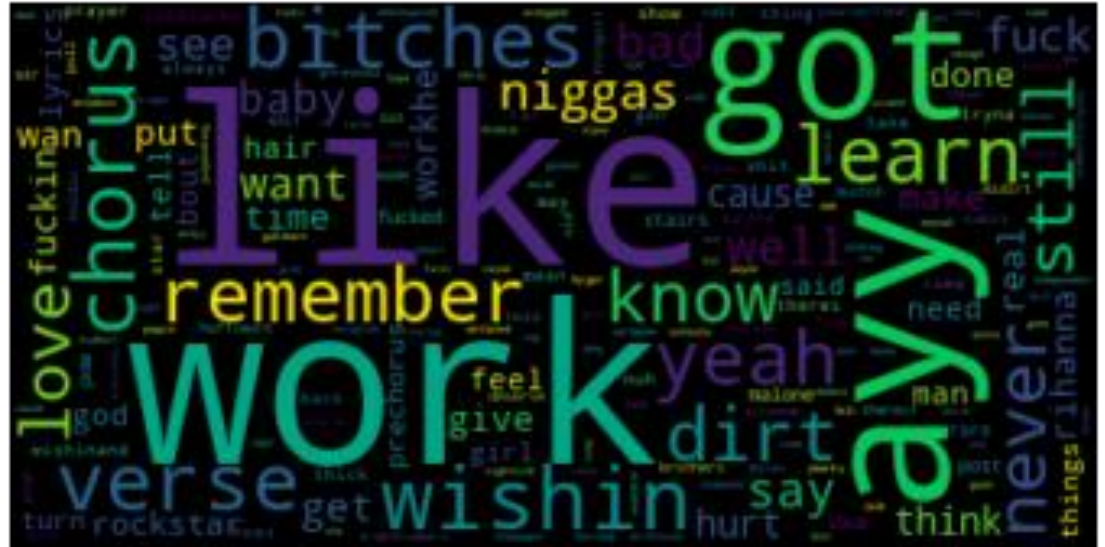
Top 10 words: [('like', 62), ('work', 58), ('nt', 41), ('ayy', 31), ('got', 25), ('wishin', 21), ('chorus', 21), ('verse', 20), ('bitches', 20), ('learn', 19)]

All Tokens: 5090

Normalized Tokens: 5090

Tokens after pre-processing: 3753

Tokens after stopwords removal: 2218



Top Artists Lyrics Analysis 2021

Top 10 words: [('nt', 53), ('know', 41), ('love', 41), ('hahahahaha', 32), ('ca', 27), ('feel', 25), ('call', 22), ('face', 22), ('oh', 16), ('chorus', 13)]

Wordcloud (length > 2):

All Tokens: 2869

Normalized Tokens: 2869

Tokens after pre-processing: 2054

Tokens after stopwords removal: 1176



SUMMARY- How emotions have changed from 1970s to 2020s?

Change in lyrics over the years :

1970: ('day', 28), ('hoo', 23), ('verse', 21), ('loving', 21), ('nt', 20), ('always', 20), ('life', 17), ('right', 16), ('going', 16), ('know', 13)]

1980:[('nt', 39), ('oh', 39), ('one', 17), ('want', 16), ('people', 15), ('new', 15), ('ai', 14), ('know', 13), ('get', 12), ('ohoh', 11)]

1990: [('nt', 133), ('verse', 120), ('oh', 97), ('chorus', 86), ('like', 65), ('na', 51), ('get', 47), ('yeah', 45), ('want', 39), ('got', 39)]

2000: [('nt', 91), ('like', 61), ('oh', 53), ('swerve', 50), ('know', 49), ('verse', 39), ('chorus', 38), ('get', 32), ('bitch', 32), ('ya', 31)]

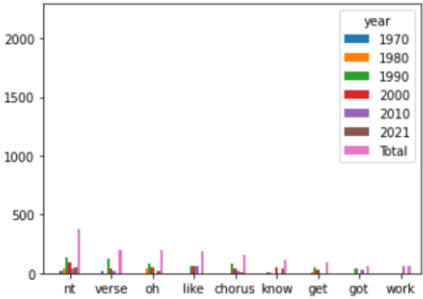
2010:('like', 62), ('work', 58), ('nt', 41), ('ayy', 31), ('got', 25), ('wishin', 21), ('chorus', 21), ('verse', 20), ('bitches', 20), ('learn', 19)]

2020: [('nt', 53), ('know', 41), ('love', 41), ('hahahahaha', 32), ('ca', 27), ('feel', 25), ('call', 22), ('face', 22), ('oh', 16), ('chorus', 13)]

Most frequently used words over the years: know, love, want.

There are few words in 1990, 2000 which are depicting emotions of anger.

All the songs are trying to depict some feeling as the word ‘like’ has occurred in most of the top artists songs over the decades.



	year	1970	1980	1990	2000	2010	2021	Total
word								
nt	20.0	39.0	133.0	91.0	41.0	53.0	377	
verse	21.0	NaN	120.0	39.0	20.0	NaN	200	
oh	NaN	39.0	87.0	53.0	NaN	16.0	195	
like	NaN	NaN	65.0	61.0	62.0	NaN	188	
chorus	NaN	NaN	86.0	38.0	21.0	13.0	158	
know	13.0	13.0	NaN	49.0	NaN	41.0	116	
get	NaN	12.0	47.0	32.0	NaN	NaN	91	
got	NaN	NaN	39.0	NaN	25.0	NaN	64	
work	NaN	NaN	NaN	NaN	58.0	NaN	58	
want	NaN	16.0	39.0	NaN	NaN	NaN	55	
na	NaN	NaN	51.0	NaN	NaN	NaN	51	
swerve	NaN	NaN	NaN	50.0	NaN	NaN	50	
yeah	NaN	NaN	45.0	NaN	NaN	NaN	45	
love	NaN	NaN	NaN	NaN	NaN	41.0	41	
bitch	NaN	NaN	NaN	32.0	NaN	NaN	32	
hahahahaha	NaN	NaN	NaN	NaN	NaN	32.0	32	
ayy	NaN	NaN	NaN	NaN	31.0	NaN	31	
ya	NaN	NaN	NaN	31.0	NaN	NaN	31	
day	28.0	NaN	NaN	NaN	NaN	NaN	28	
ca	NaN	NaN	NaN	NaN	NaN	27.0	27	
feel	NaN	NaN	NaN	NaN	NaN	25.0	25	
hoo	23.0	NaN	NaN	NaN	NaN	NaN	23	

call	NaN	NaN	NaN	NaN	NaN	22.0	22
face	NaN	NaN	NaN	NaN	NaN	22.0	22
wishin	NaN	NaN	NaN	NaN	21.0	NaN	21
loving	21.0	NaN	NaN	NaN	NaN	NaN	21

THANK YOU