

Lyrics Analysis: Ariana Grande

Introduction

The growth of unstructured data popularity is giving positive impact to the world in many ways. The data mining in unstructured data has emerged as one of the powerful analytics tools to extract the meaningful patterns. This can be used in music industry where the lyrics analysis can be performed to gain insight from the lyrics. Lyrics encapsulated with the emotion such as self-righteousness, empowerment and others, and it also one of the artistic expressions. A lyrics analysis of five Ariana Grande songs was conducted to detect the pattern, stylistics elements and to allow comparisons across different songs.

This project is choosing five different songs with different theme. The five popular songs by Ariana Grande that were chosen are “7 Rings”, “No Tears Left to Cry”, “Into You”, “God Is a Woman” and “Get Well Soon”. Table 1 below shows the songs and their theme.

Table 1 Song and theme

| Song | Theme | Summary |
|----------------------|---------------------------------|--|
| 7 Rings | Friendship & Shared Empowerment | Inspired by a real-life shopping spree with six of her best friends, Ariana celebrates financial independence and sisterhood. |
| No Tears Left to Cry | Emotional Recovery | Written after the Manchester tragedy, this song blends sorrow and strength. Ariana starts with a soft tone but quickly transitions into an upbeat anthem about embracing happiness after trauma. |
| Into You | Romantic Desire | It's a sultry, danceable track where Ariana sings about the excitement of a relationship on the verge of intensifying. |
| God Is a Woman | Feminine Power & Identity | Ariana uses religious metaphors to assert feminine strength, sensuality, and creativity. |
| Get Well Soon | Mental Health & Healing | This introspective track addresses Ariana's personal struggles with anxiety and emotional overwhelm. |

This analysis was done using natural language processing (NLP) techniques and sentiment analysis to extract the most frequent terms, identifying emotions and sentiments. This analysis can help reveal whether songs can be distinguished by their lexical patterns and emotional tone.

Methodology

This analysis begins with all the lyrics for each song were combined into unified dataset. Then, it will undergo data cleaning and preprocessing of the lyrics which involves transforming all text to lower case, removing punctuation and numbers, strip the white space, and remove stop words. Then, two version text cleaning were performed which one with stop words only and another with the creation of custom stop words for domain-specific and prepared to be compare with the results without custom stop words in order to shows the different. The custom stop words consist of terms like aint, cant, don't, gonna, wanna, gotta, im, youll, youve, get, got, just, come, know, look, see, say, make, tell, back, now, keep, let, thing, put, take, yes and want. Lemmatization or stemming wasn't done here because to maintain the richness of the lyrics.

Then, Document-Term Matrices (DTM) were generated to find word frequencies where word frequency and word cloud plotting was done to visualize the most prominent terms. For sentiment analysis both Bing and NRC lexicons were used where Bing lexicons provide a net sentiment score for each song while NRC lexicons allowed for deeper emotion-based analysis which making it well suited for analysing song lyrics. This approach help capture emotions and feeling of the lyricist, singer or composer during songwriting or performance process.

Analysis and Discussion

There are two types of stop words were use here which using only standard stop words and the other incorporating custom stop words. Both approaches were applied is to show the difference between to preserving the stylistic and emotional weight or richness of the lyrics such as express the tone, attitude, voice and informality. Using custom stop words, it help to reveals a more uniqueness of the lyrics and help get more content-rich term. Top frequency ff each song was done to understand the all the lyrics first. Figure 1 shows top 10 frequency per songs with custom stop words.

Lyric Analysis

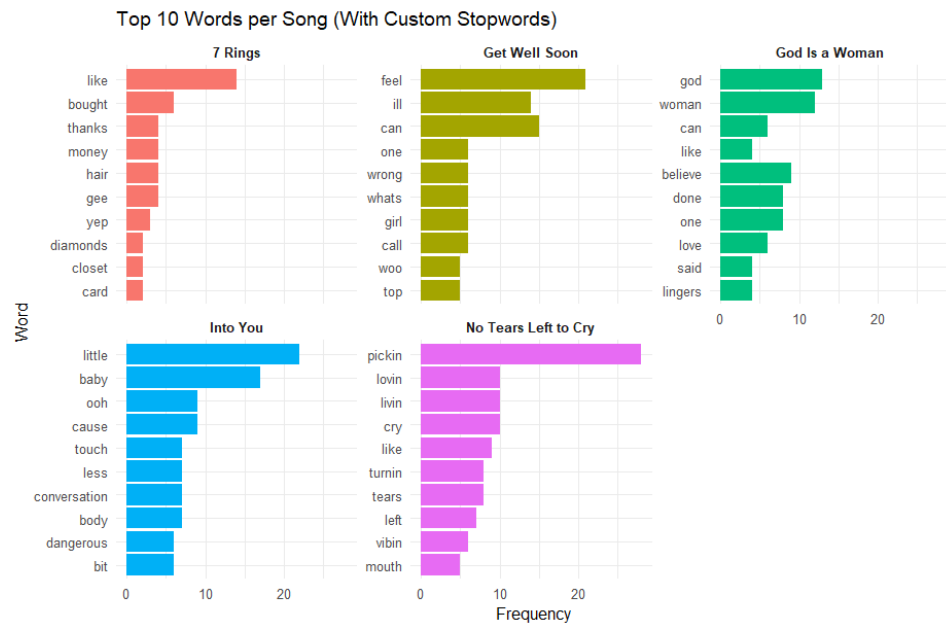


Figure 1 Top 10 words frequency per songs with custom stop words.

The “7 Rings” songs clearly reflecting song’s theme of empowerment. The repetition suggests an assertive and confident attitude tone but the terms like ‘thanks’, ‘gee’ and ‘yep’ add a playful and casual voice which reinforcing the carefree. Then, “Get Well Soon” is focusing on mental health and emotional support which can be proved by word ‘feel’ have 21 times indicates a central theme of emotional state. The presence of ‘ill’, and ‘wrong’ suggests struggle and reaching out for help and words like ‘can’ is showing a personal strength and encouragement. Next, song “God is Woman” has a strong spiritual themes because of repetitions of ‘god’, ‘woman’ and ‘believe’ which emphasize a feminine divinity. Overall, words in this lyric are showing a balance between strength and sensitivity.

Then, song “Into You” is suggesting the intimacy and desire emotion where align with their themes which is romantic desire. This is because the top words like ‘baby’, ‘body’, ‘touch’ and ‘conversation’ indicate a romantic connection and physical closeness. The high frequent words are ‘little’ and ‘bit’ suggest a gradual emotion or tension building narrative while ‘dangerous’ and ‘aah’ add sensual or thrilling tone which show the seductive mood of the songs. “No Tears Left to Cry” songs frequent words show the past sadness but dominance by words like ‘lovin’ and ‘vibin’ suggests a transition into positivity and healing which align with the song theme emotion which is emotional recovery and resilience. Figure 2 below shows the difference between those two types.

Lyric Analysis

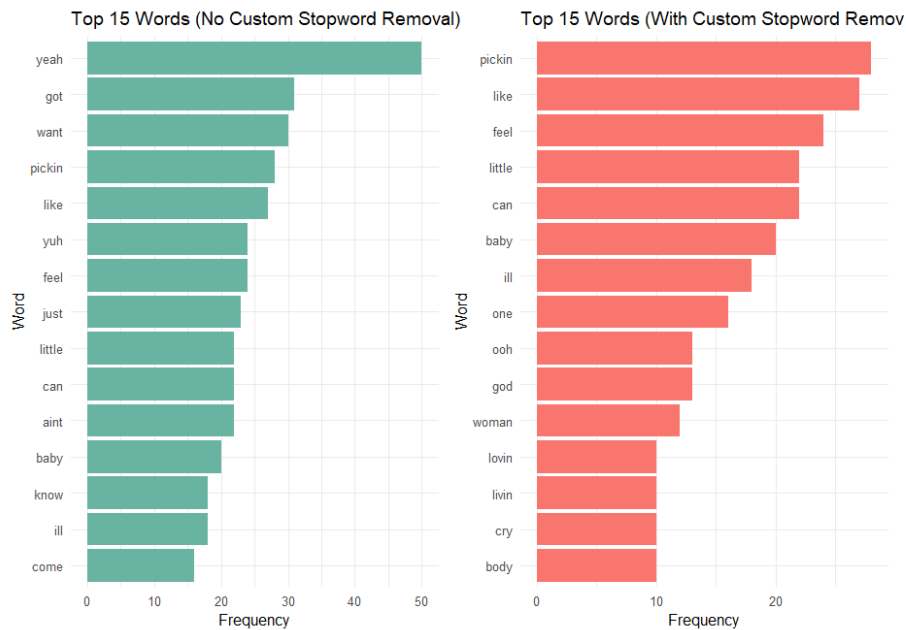
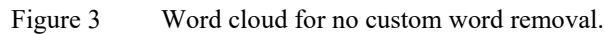


Figure 2 Top 15 words in the lyrics based on two types.

From figure above, can see that without custom stop words more emotional expressions such as ‘yeah’ and ‘yuh’ appear among the top words. This is reflecting the rhythm or act as fillers in the music which can be expressed as frustration, happiness and others depending on the context to enhance the rhythm and melody or convey mood. However, when custom stop words are applied more uniqueness and meaningful terms emerger like ‘god’ which is significant at the song “God Is a Woman” so this help in gaining clearer understanding of the lyrics and their deeper meaning. In these five songs the “No Tears Left to Cry” is dominant compare to others because their words ‘pickin’ has 28 times frequency. Figure 3 and Figure 4 below shows the difference word cloud plot between those two methods.



5

was shown in Figure 3 such as “baby”, “feel”, “love” and “life”. These terms are more indicative to the emotional tone, subject matter and central topics that present in the lyrics like relationship, self-expression and empowerment. The removal of informal stop words helped highlight more content specific vocabulary. Then, custom stop is useful when preparing the data for sentiment analysis where words like “just”, “get” or “yeah” would dilute the model effectiveness by adding noise. Figure 5 show the sentiment analysis using Bing and NRC lexicons with removal of stop words.

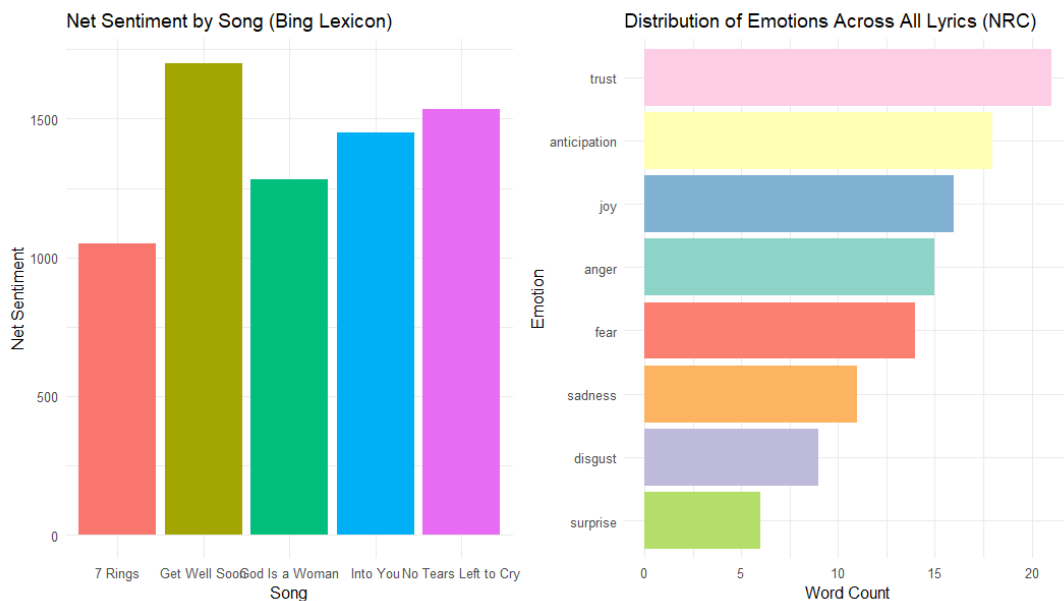


Figure 5 Sentiment analysis using Bing and NRC lexicons.

All the song lyrics chosen exhibit the positive sentiment which giving a fell good atmosphere to the listeners. This is proven by the fact that the themes of this songs center around self-healing or related to positive thing. The highest positive sentiment are “Get Well Soon” which is at 1533 net sentiment where the lyrics suggest a strong presence of encouragement and hopeful content which align with song’s theme of mental health and healing.

On the other hand, song “7 Rings” show the lowest net sentiment which is at 1050 but still reflects a positive tone, The lyrics message focus on materialism and empowerment but using the assertive and bold language that contributes to slightly higher negative sentiment. Song like “God Is a Woman”, “Into You”, and “No Tears Left to Cry” consistently use of optimistic and emotionally uplifting language across these tracks. This analysis shows that

finding music with positive messages and uplifting lyrics can contribute to emotional well-being. Lyrics can influence language development and personal values which potentially shaping someone grow into kind and thoughtful individuals.

Then, NRC emotion lexicon provides a deeper look into the range of emotion that expressed in the lyrics. Trust is the most dominant emotion with 21 words which indicates the lyrics frequently evoke the feelings of confidence, belief and emotional security. This is show by the song's theme where most of the song lyrics talk about trust either in oneself or in others. For example, song "Into You" is talking about trust in the relationship, song "Got Is a Woman" talk about trust among the woman and "Get Well Soon" is about trusting ourselves.

However not all the emotion expressed are positive there are some negative emotion such as fear, anger, disgusting and sadness do appear in thing five songs but there are not as dominant compared to positive emotion such as joy and anticipation which more prevalent. This happen might be from the song like "Romantic Desire" where there are some conflicts in the relationship.

The analysis reveals that Ariana Grande's selected songs predominantly have a positive sentiment and emotionally rich content. This can be confirmed when high positive to negative ration in the Bing lexicon aligns well with the NRC emotion profile which confirmed the uplifting and empowering themes often present in the music even though song is sad.

Conclusion

In conclusion, this analysis demonstrated an in depth understanding of song lyrics by using customized stop words and sentiment analysis by revealing both surface-level expressions and semantic structures. The results suggest that Arian Grande's lyrics rhythmically rich but also convey emotionally intelligent and consistent messages that resonate with listener on personal level.