The Beatles Music Audio Feature Analysis Report

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Intro

The Beatles are one of the most influential rock bands of the 20th century. Their music style has evolved over time, ranging from early pop rock to later experimental and creative works, leaving a profound impact on the history of music. This analysis aims to explore the distribution and patterns of The Beatles' music characteristics by leveraging Spotify API audio features data, providing insights into their unique musical style.

Data Acquisition and Analysis Methods

The data for this analysis was obtained from Spotify API using the spotifyr package.Specific uses https://github.com/charlie86/spotifyr. The dataset includes many features,such as:Danceability, Energy, Loundess.

The data analysis method is Distribution Analysis, Correlation Analysis,Scatterplot Matrix, and Cluster Analysis.

In my recent project, I used the "R Core Team" software for statistical computing (R Core Team 2023), leveraged the storytelling insights from Alexander's *Telling Stories with Data*(Alexander 2023), and accessed Spotify data through the `spotifyr` package(Thompson et al. 2022).

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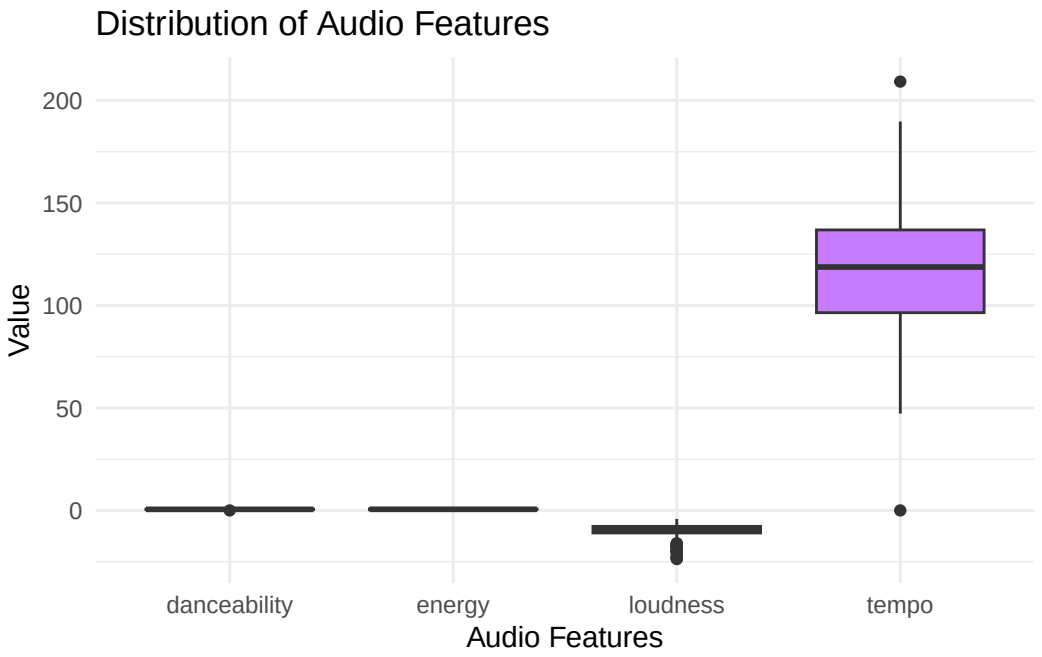

Figure 1

As shown in Figure 1, the distribution of various audio features for The 'Beatles' tracks, including danceability, energy, loudness, and tempo..

The tempo feature shows a wider distribution, indicating that The Beatles' songs vary greatly in speed, and the danceability and energy features show more concentrated distributions, suggesting that most of The Beatles' tracks maintain stability in these characteristics.

Results and Conclusion

From the Figure 1, we discovered several unique patterns in The Beatles' music across various audio features. Specificaly:

The tempo feature exhibits a wider distribution, indicating that the speed of The Beatles' songs varies considerably across their catalog. In contrast, the danceability and energy features are more concentrated, implying that these characteristics tend to remain consistent in most tracks. Similarly, the loudness feature shows less variability, indicating relatively stable dynamics in volume across the songs.

References

Alexander, Rohan. 2023. *Telling Stories with Data: With Applications in r*. Chapman; Hall/CRC.

R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Thompson, Charlie, Daniel Antal, Josiah Parry, Donal Phipps, and Tom Wolff. 2022. *Spotifyr: R Wrapper for the 'Spotify' Web API*. https://github.com/charlie86/spotifyr.