Ed Sheeran Spotify Analysis*

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1 Introduction

Ed Sheeran is one of the most successful and influential contemporary artists, known for his blend of pop, folk, and acoustic music. His songs are consistently streamed by millions across platforms like Spotify. This report uses data from Spotify to analyze Ed Sheeran's music over time, exploring key features such as track popularity, duration, and other audio characteristics like energy, danceability, and valence. These metrics provide insight into his evolving musical style and listener preferences.

2 Data

Using the `spotifyr` package in R, data on Ed Sheeran's tracks were collected through Spotify's Web API. Audio features such as **popularity**, **duration**, and other key characteristics were retrieved. These features, available through Spotify's proprietary algorithms, provide insights into how songs are perceived (e.g., popularity) and their structural properties (e.g., duration, energy, danceability).

The data was saved as `ed_sheeran_data.rds` and analyzed to explore trends in Ed Sheeran's music.

3 Results

3.1 Valence of Ed Sheeran's Songs Over Time

Figure 1 represents the valence, or emotional positivity, of Ed Sheeran's songs across his career, as measured over time based on album release dates. Valence is a measure of the musical tone of a song, where higher values indicate more positive emotions and lower values represent more negative or somber tones.

3.1.1 Observations

Figure 1 illustrates the evolution of Ed Sheeran's music through individual songs as data points, with the trend line providing an overview of the emotional changes over time. In his early career (pre-2015), his songs displayed a wide range of valence values, reflecting diverse emotional tones. Some tracks displayed low valence, signaling somber or negative emotions, while others were more upbeat with higher valence. This period highlights Ed Sheeran's exploration of a broad spectrum of moods, showcasing significant emotional variety in his early work.
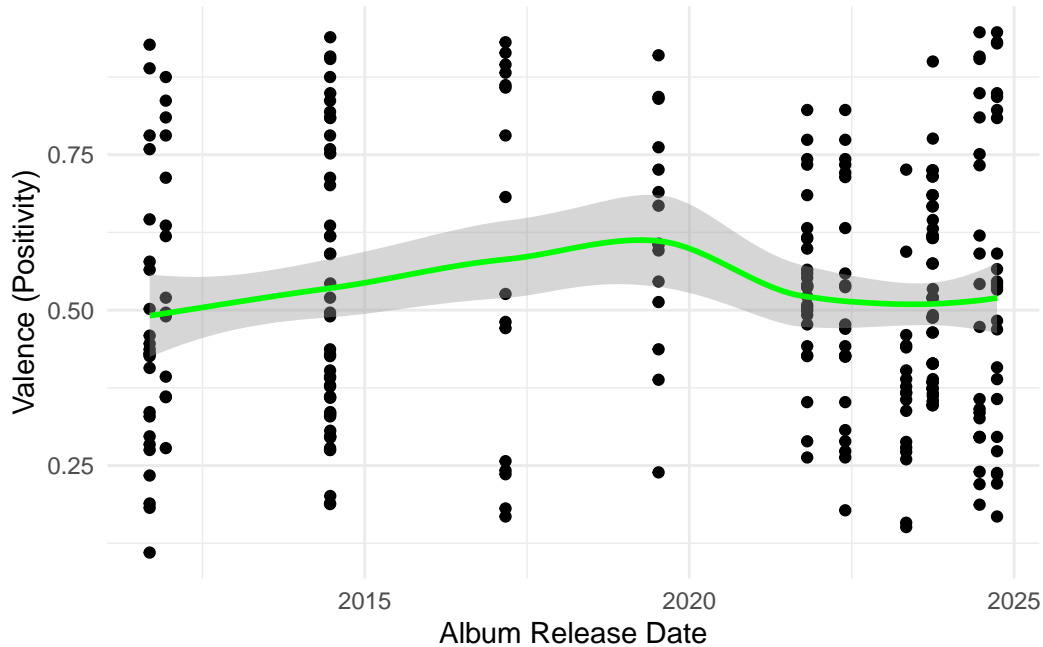
Figure 1: Valence (Positivity) of Ed Sheeran's Songs Over Time

Around 2015, a noticeable upward trend emerges, reflecting a shift towards a more upbeat and consistent tone. However, after 2020, there is a slight decline in valence, suggesting a return to a more neutral emotional balance. Despite this, individual songs continue to vary widely in emotional expression, showing that Ed Sheeran's music still explores a range of moods. Overall, the valence trend stabilizes around 0.5, indicating a balance between upbeat and somber tones across his career.

4 Discussion

This analysis of Ed Sheeran's music over time reveals several key trends. Early in his career, Sheeran's songs showcased a wide emotional range. Between 2015 and 2020, his music became more positive overall, reflecting a shift towards optimism during that period. However, after 2020, there is evidence of a slight return to more neutral emotional tones, with less focus on purely positive content.

These trends suggest that Ed Sheeran's artistic evolution has involved experimenting with a range of emotions, while maintaining a generally consistent balance between positive and negative tones. The fluctuations in the graph highlight his versatility in conveying both joy and melancholy in his work.

5 References