NYCU 2023 Autumn
Data Visulization HW9 Report

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Overview

In this homework, I use several data visulization method to show the details of Spotify Track Dataset. The dataset contains 114000 songs and 19 features. Figure 1 shows the overview of my visulization system. I will introduce the details of each part in the following sections.

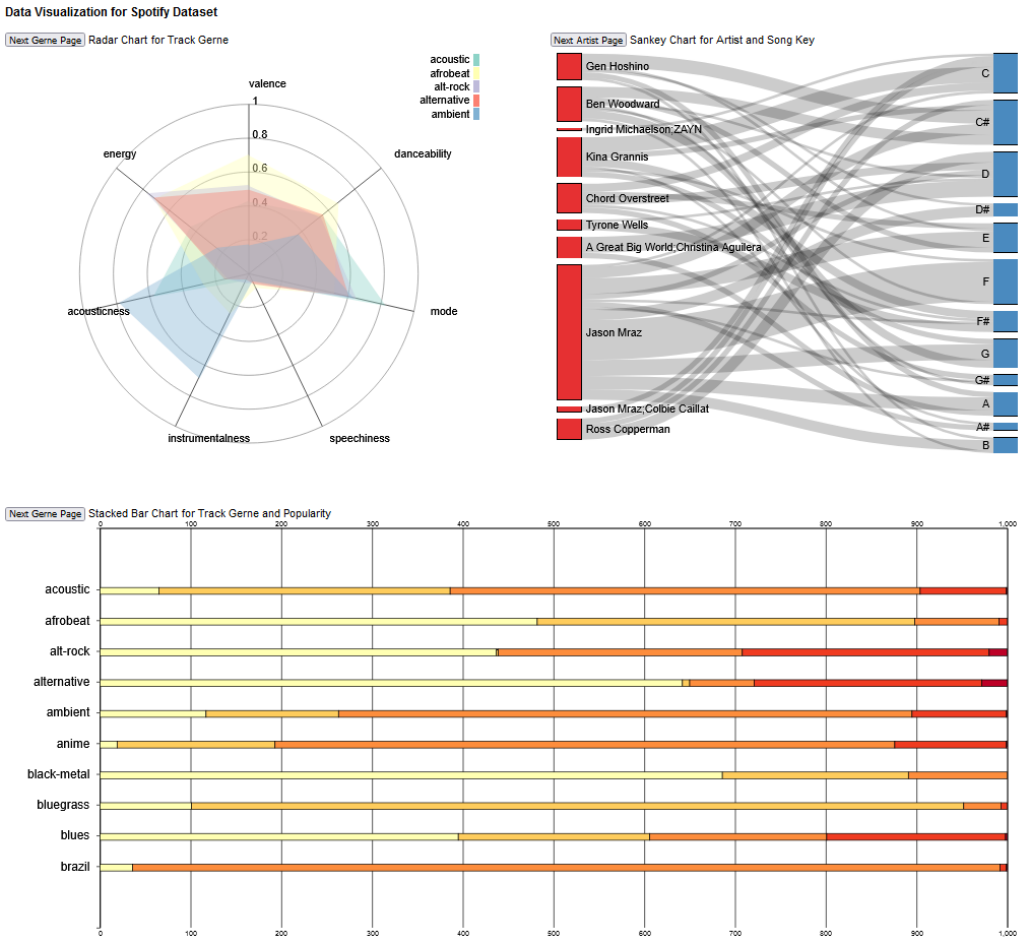

Figure 1: Overview of my visulization system

Data Visulization

Radar Chart

The first part of my visulization system is radar chart, which shows the difference between each track gerne from the perspective of several features such as acousticness, danceability, energy, instrumentalness, speechiness, valence and mode. With the radar chart, we cannot only see the difference between each gerne, but also discover the relationship between each feature. For example, from the Figure 2, we can see that the difference between classical and comedy music is very obvious, the former has higher acousticness and instrumentalness, while the latter has higher speechiness and energy. In the same figure, we can also discover the relationship between mode and valence, when the mode is tend to be major, the corresponding valence is also tend to be happier (higher).

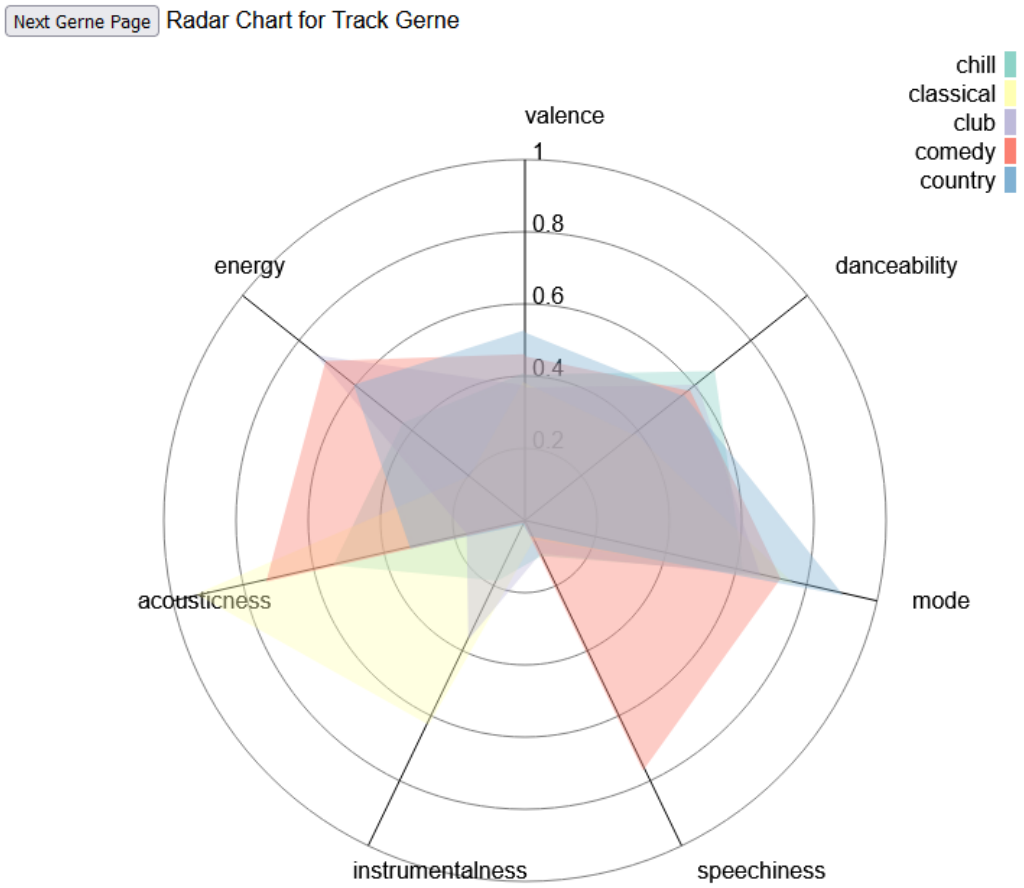

Figure 2: Radar Chart

Sankey Diagram

The second part of my visulization system is sankey diagram, which shows the relationship between the artists and the track key. With sankey diagram, we can see the distributon of track key of each artists, which implies the their music style. From Figure 3, we can see that most of the selected artists prefer to use C, C# and D as their track key. From the aspect of artist, the track key of Ross Copperman is mainly C, C# and D, which implies the music style of Ross Copperman is tend to be happy and bright.

Stacked Bar Chart

The third part is the stacked bar chart, which shows the distribution of popularity of each gerne. In this dataset, each gerne has 1000 tracks, so we can easily to compare the popularoty of each gerne. From Figure 4, we can see that the gerne with more high-popularity tracks is K-Pop, which is well-known in worldwide. For gerne such as Italian, while it has some 80-100% popularity tracks, the ratio of 0-20% popularity tracks is obviously high, which implies Italian gerne might have some hit song, but most of the them are not quite popular in Spotify.

Conclusion

From the visulization system introduced above, we can see the trend and difference between each gerne or artists in the Spotify Track Dataset, and discover the relationship between detailed feature.

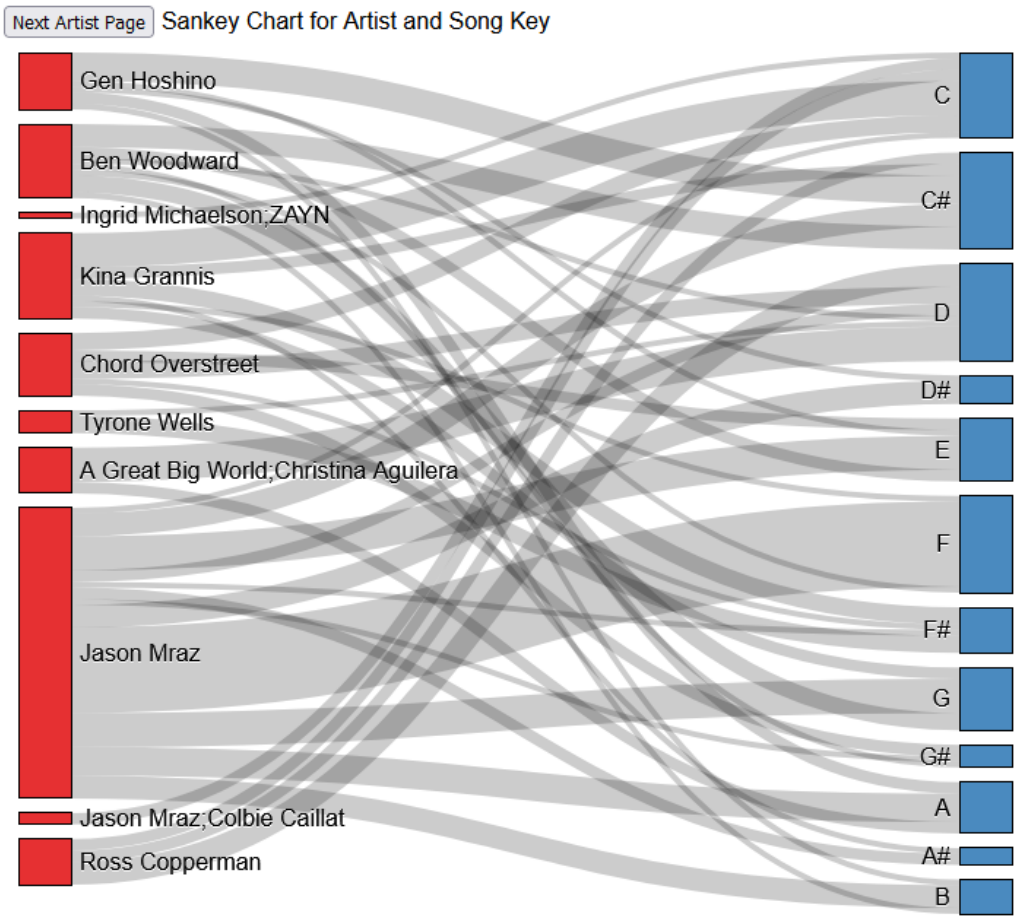

Figure 3: Sankey Diagram

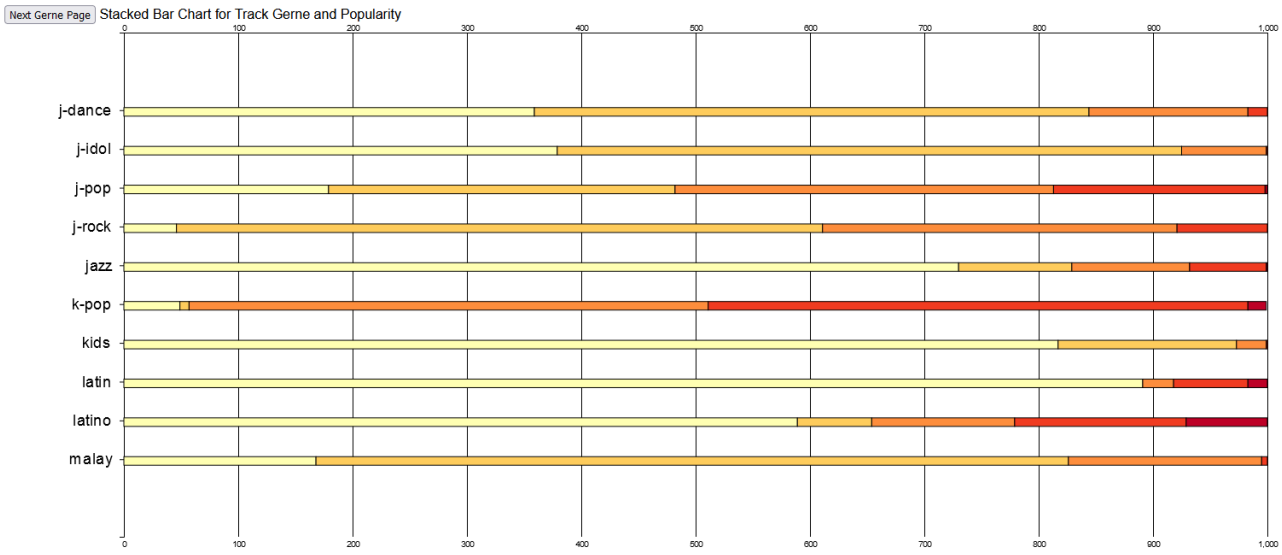

Figure 4: Stacked Bar Chart