Music change the world

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1 Introduction

1.1 Background

- The evolutionary trajectory and intrinsic interactions of western popular music

Nowadays, it has become a more and more common phenomenon for people to listen to all kinds of music to seek pleasure and relax themselves. And we may abstract and conclude the invariable key elements in the forever-changeable styles and contents of music. That are melody, harmony, lyrics, rhythm, and timbre, etc. And in analysing the similarity and developmental portraits among some of these elements, we may have a primary clue on how the previous musicians have exerted their influence upon their same and subsequent generations of musicians and give some insights into how a new genre of music came into being.

Utilizing the interactive network model, we are able to implement the cross-tabulation of the various specimens given, and further explore the deep-rooted relationship between different musicians over time, therefore produce a elementary work on the evolutionary trajectory of music.

1.2   Restatement of the problem

From the data we retrieved.[**?**] We can learn that all the artist in the world has their influences. Not only to the genre of music he specialized. But also to some specific artists from the younger generation. Our first mission is to create a network that links the influencer and the follower. Through the network,we may find the indicators of "musical influence". The weight and the form of the network can show us the relationship between different artists. They may be influencers, or followers. Or they can be both.

Similarity is also an index we focus to. Since there are experts already defined some features and factors of musical compositions. Features such as danceability, energy or liveness is hard to define by amateurs like us. However, the expert quantized these features so we can process them easily. In this case, we should find out that the similarity between artists from the same genre or from different genres.

The revolution of music through a period of time is also an significant argument we are facing. Each artists is active in different eras. Thus only the artists who became active earlier can influence the latter artists. Each era has their favorites, how does people's taste varies is also an interesting problem to solve.

In short, we can divide the whole task into the following parts.

- Build the network that can show us the relationship between artists: who is the influencer and who is the follower.

- Take the time and genre into consideration. Find out how these indicators affect our model.

- Use our model and analyze the data we processed. After all, we can have our own thoughts about it. How does music affect the society? And how much is the influence of a revolutionary artist/genre.

Our model is meant to figure out the intrinsic information from the data we already knew. By processing the data with our model,we can learn a lot of hidden information. Hence we can answer the questions like: who is the major influencer of an era and how he led the popularity, which genre of music is the most popular one, how does the fashion changes over time. At last, we may even find out which genre will lead the major revolution of music.

1.3   notation