



**NATIONAL TSING HUA
UNIVERSITY**

Theme Title:

ANALYSIS OF THE LYRICS OF LOVE SONGS

will find can every
but believe time
and of front to for year
more wait have
colors bring what
a
stand my
all in
year
promise
fall alone still
away
o b o

beat how
thousand
take
you
suddenly
breath
hour come she
one
me
fast let
afraid
watch beauty
love
not
would
die be darling
doubt your
brave

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Introduction

For this project, we are exploring the relationship between English and Mandarin and the ways of expressing ourselves when it comes to the idea of “love” as seen in famous song lyrics. The reason as to why we chose to use song lyrics is simple: We believe that lyrics, especially if they come from famous pop songs that everyone listens to on a daily basis, may influence the way we perceive some ideas or concepts, specially to topics related with emotions. Love is something widely spoken about in millions of songs, ranging from songs about someone being in love to songs about someone being hurt because of love. Because of this, we chose to continue dissecting this topic and engage in the study of song lyrics that talk about someone being in love. We will see how, according to the different languages, we tend to make a certain approach to song writing by making a count of the combination of words that will repeat in these songs. We are going to compare the number of times a word is repeated in the lyrics in order to try to decipher what the singer thinks is most important when it come to the concept of love.

Motivation

For this project, we wanted to delve in the process of creating love songs. Because, love being such a pivotal emotion, such a compelling idea, a driving force behind people's everyday action, we thought that it would be interesting to explore the relationship between love and the words we choose to describe this emotion.

To make matters more interesting, we thought that analyzing song lyrics was probably the best choice, since our options are varied and unlimited. We could also observe sentence patterns and phrases that are used to specifically express emotions such as love.

However, we are thinking that these patterns may change drastically depending on the language we are working with, so in order to make things even more interesting, we thought about comparing the two languages that the members of our group share: English and Mandarin.

With these two languages to compare from, we decided to take two songs in each language and process them through a program created by our teammates taking word by word, to break down the lyrics of the song.

Since there are many definitions of what love can mean, we want to avoid creating problems when deciphering the key words that are used when talking about love. With this in mind, we found ourselves at a bit of crossroads. We had to narrow down our topic. Trying to talk about love would be too vague, considering how many ways of tackling this down there were, even after we had thought about only using two languages to start with.

We discussed about what topics we find more commonly in love songs. Once we had this down. Thus, this brought us to our problem.

Problem

The problem we will try to solve is, how can we find what words can be used in a love song. When trying to solve this problem, we also found ourselves in the position of having to consider the differences between languages.

With this situation at hand, we chose to take to pick from pop songs with “love” as their main topic. Of course, this was still a very broad topic, so we chose to narrow it down to songs that talk about being in love.

Once we had this narrowed down, we only needed to start thinking about what kind of program we could use and the algorithm necessary to allow us to break down the lyrics.

Algorithm

The algorithm that we used to achieve our program is similar to a sorting algorithm, since we counted the numbers of times that a word appears in the lyrics of the song, we keep it in a python dictionary and arrange it in a way that our output will have the word with the greater incident in bigger font in the word-cloud picture.

The implementation of the code can be divided in the following blocks:

- We start adding the pack-management pip used in Python to install and manage software packages, and install those specialized in analyzing Chinese and English vocabulary.
- We also use a pip for creating our word-cloud that is going to be seen at the end of the program.
- After we import the necessities libraries to execute the functions included in our program.
- To make our program analyze the love songs we first need to import the files, or in other words, we import the songs lyrics that we were going to use in our program.

- Following, once the program has opened the files for use, it is going to read through the file and the algorithm will store the words in a dictionary counting the occurrence of a word in the lyrics of the song.
- We do a similar manner, to process English lyrics. We used the nltk function that came in the previous pip to analyze and differentiate English words.
- As we did for storing Chinese words, we are going to use the same procedure to count and store English words from the song lyrics, and sort them in accordance of the occurrence of the word.
- Once we process all the files and we have our dictionaries with number of an occurrence of a word, we will be moving on to make our word-cloud and show to the user the frequency of each word.
- Surely, we want our word-cloud to be appealing to the user and have some relation with our purpose. Thus, we are going to represent those lyrics inside a musical note, we set it parameters, read into our dictionaries and create our picture!
- Finally, we will save our results.

Programing Results

At the end we were able to create a beautiful word-cloud that highlighted the most common words used in love songs.

What we found from the comparison between our five selected songs is that English speakers tend to use more direct words, such as love, or words that express their literal feeling. However, in Chinese, singers of this language, they may try to show their love in more discrete way, and their word selection will be more subtle.

Conclusion

Learning to program is not just about understanding a programming language. It is also need to understand how to manipulate data and create structures with it so that the algorithm works efficiently to perform the tasks we want.

From this project we learned to form a clear idea of how we can use Python and what kinds of things it is useful for analyzing. We chose the theme of “Analyze the lyrics of the music”, since this would help us to analyze the topic of “Language shapes the way we think”.

During this project we found differences between English songs and Chinese songs, but more important we found similitudes of how people regardless of their culture or language tend to express their feelings, in this case, their love using similar combination of words and sentences.
