Research on Microblog Sentiment Analysis in Policy Change
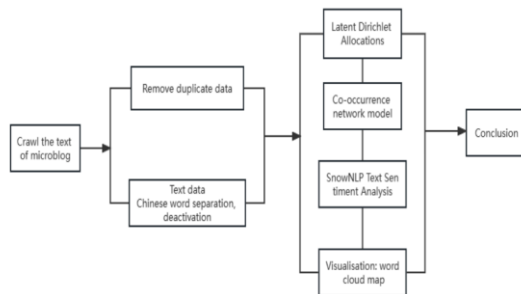
Introduction

- With the total amount of information in the world growing at over 100 PB per month, text sentiment analysis has become one of the hot research topics in the field of natural language processing. Textual sentiment analysis is the process of mining and analysing the subjectivity, opinions, emotions and other subjective information of a text through computational techniques to classify the sentiment of a text.

- Sina Weibo is the mainstream social networking platform in China, and the comments made by internet users often carry a strong subjective tendency. And the most important topic of concern at the moment is how people's lives can be restored to order three years after the new crown epidemic has arrived.Therefore, the topic of our research is the analysis of people's sentiments on the topic of "policy liberalisation" on Weibo.

Aim

- Sina Weibo, as the leading social media platform in China, can enable the government and relevant departments to make quick and effective handling responses if they can tap into potential public opinion sentiment information and provide early warning of public opinion from the text of the microblog. In particular, if public opinion crises can be controlled in advance of future epidemic changes, the negative effects of public health emergencies can be effectively reduced.
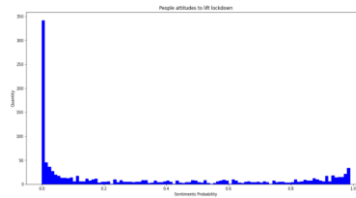
Methods

Results

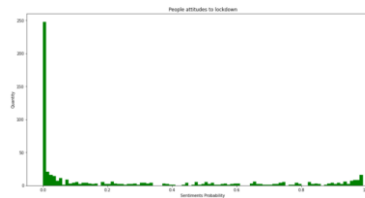**Fig. 1**. Text sentiment score results on December 20th

Fig. 2. Text sentiment score results on November 28th

- It is clear from both graphs that the majority of emotional attitudes expressed by people over the two days were negative. It is worth noting that between these two days, Guangzhou announced the lifting of controls and other measures on 30 November. In addition to this the government introduced a series of policies indicating that the closure was no longer necessary. Up until the 20th of December, people were already in a situation to resume their daily lives i.e. the policy was liberalised.

Fig. 3. MicroBlog text content word cloud map on November 28th

Fig. 4. MicroBlog text content word cloud map on December 20th

- In the word cloud chart for 28 November, it can be seen that the majority of comments made were for a quick liberalisation. In addition to this, there are those who are worried about the economy; some want policy changes such as prevention and control. Overall the majority of people commented on their complaints about the inconvenience of living now, and their desperation for change.

- The majority of comments made in the word cloud chart on 20 December were about physical health issues. The number of cases diagnosed after the release continues to increase, with a variety of symptoms affecting people's lives. Most people felt that the change in policy was too sudden and that there were not enough medicines ready to deal with the change in risk.

Results

Table. 1. Weibo Topic Vocabulary for November 28th

Table. 2. Weibo Topic Vocabulary for December 20th

- Comparing the above two tables, we can find that after the country's policy on the epidemic has changed, people's worries about the economy have decreased, indicating that the policy has played a positive role in economic stability. However, the LDA model still has deficiencies. The extracted keywords overlap and have insufficient relevance.
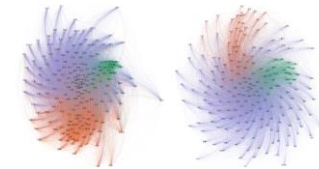

Fig. 5. Co-occurrence Networks

- Through the network map, it is found that the keywords on Weibo have shifted from economic concerns to antipyretics, etc., and the masses have optimistically accepted the government's policy changes.

Conclusions

- There was a reduction in the number of concerns and complaints from the public, and many of the negative subject lines no longer existed. And most of the new subject lines are about physical conditions and health issues, suggesting that a lot of people have caught the virus. This is one of the changes that the policy shift has brought us. The public has also become less worried about the economy and more confident that the economy is returning to rapid growth. No matter which policy we are in, the most important thing is to protect ourselves and stay positive and optimistic about life.