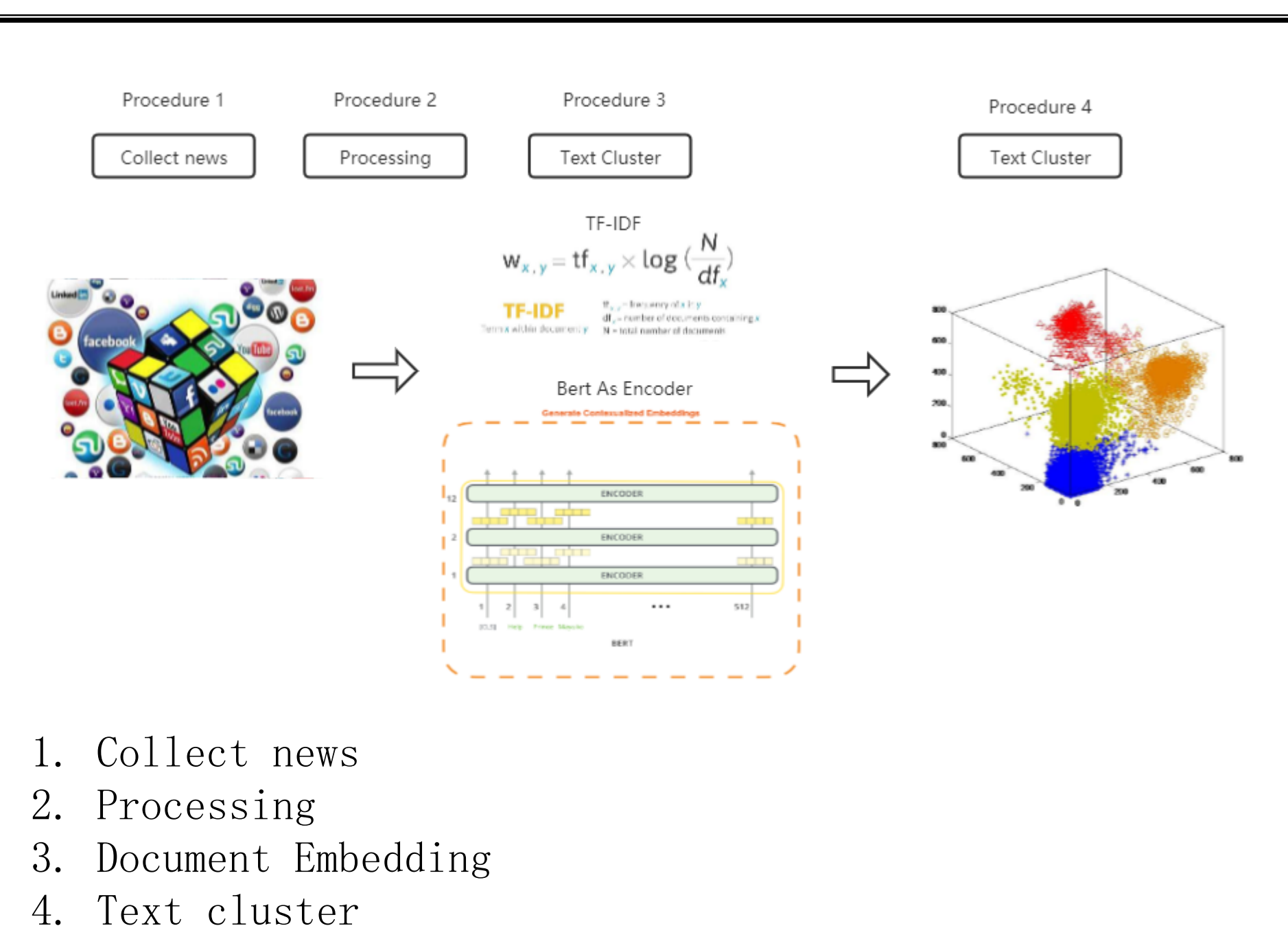


论文摘要

Financial markets are very sensitive to emerging news related to stock because investors need to continuously monitor financial events when deciding buying and selling stocks. Tracking important events has done mostly using rule-based methods in the past, which is time-consuming in the face of huge online news data. To track this issue, in this paper, a novel document embedding technology based on TF-IDF and BERT incorporating online text cluster algorithm to form an automated event detection system is proposed. Embedding technology is first used to encode text to vectors and then an online text cluster algorithm -SinglePass is implemented to accomplish topic tracking. Experiment results show that the proposed algorithms can effectively detect and track online topics. In addition, both domestic and international events such as the outbreak of novel coronavirus (COVID-19) and Sino-U.S. trade war and their impact on capital market in China are analyzed, which demonstrate the practical and economic value of proposed system.

系统模型



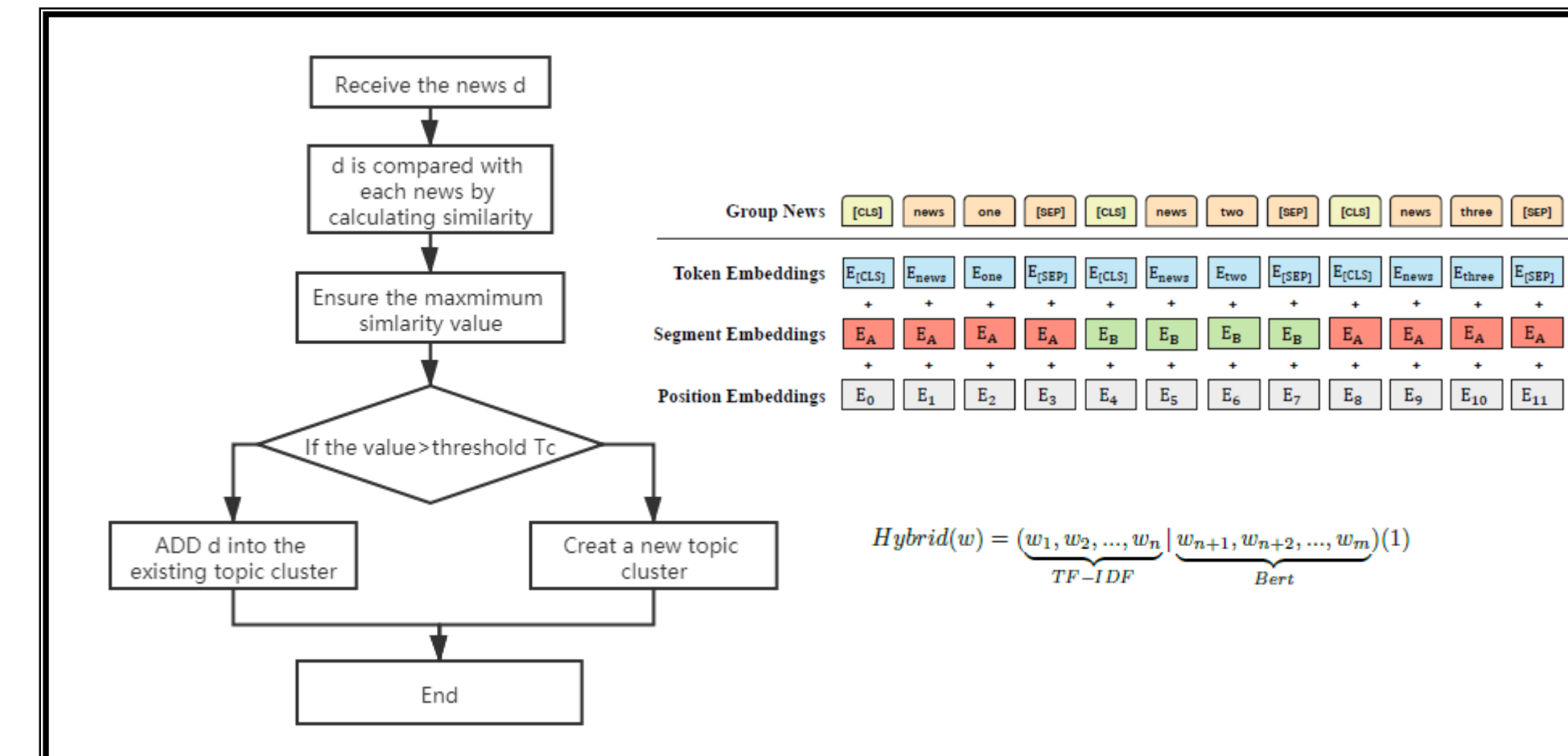
论文简介

This paper propose a automatic online topic detection algorithm in real-world Chinese text corpus.

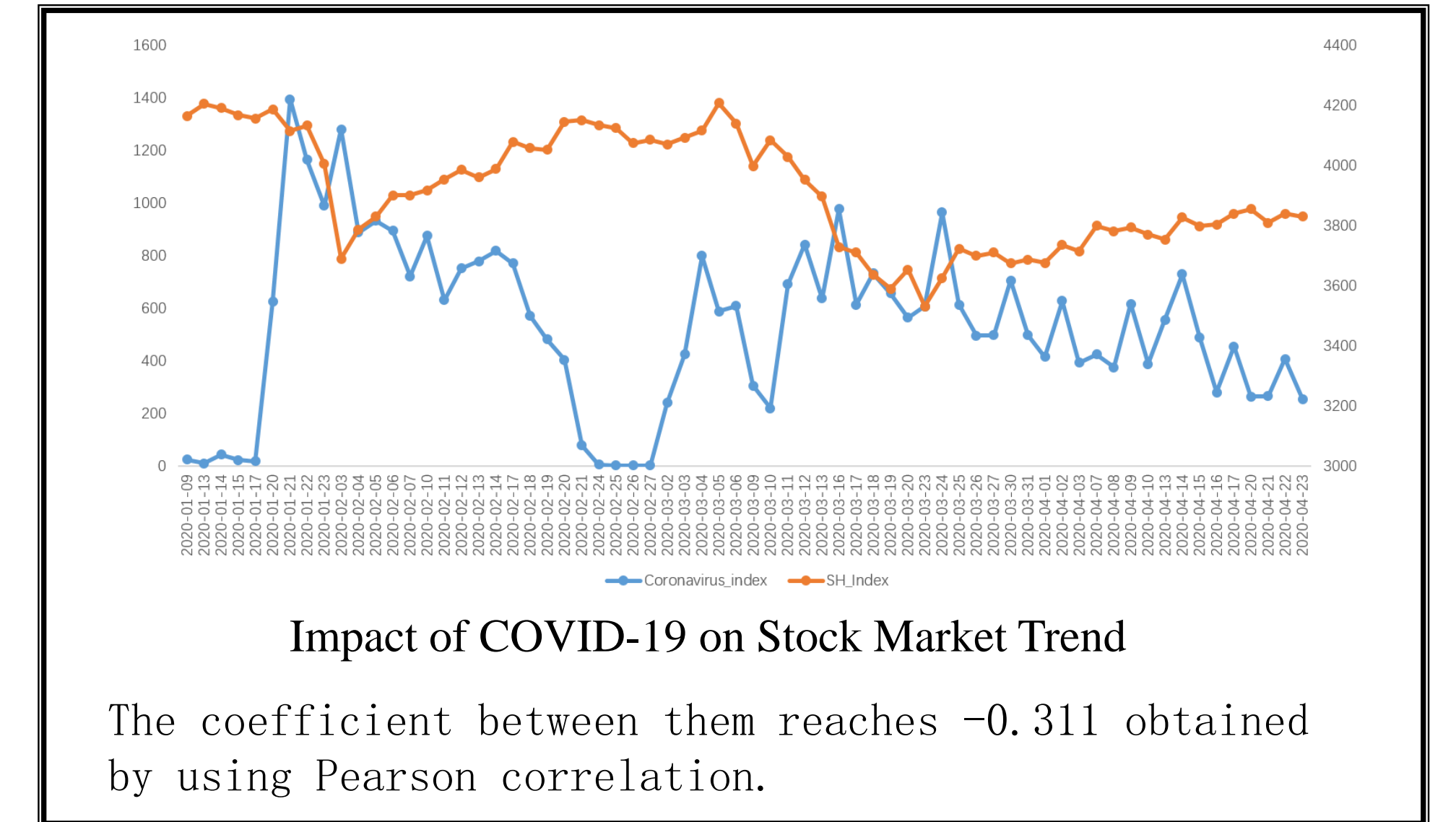
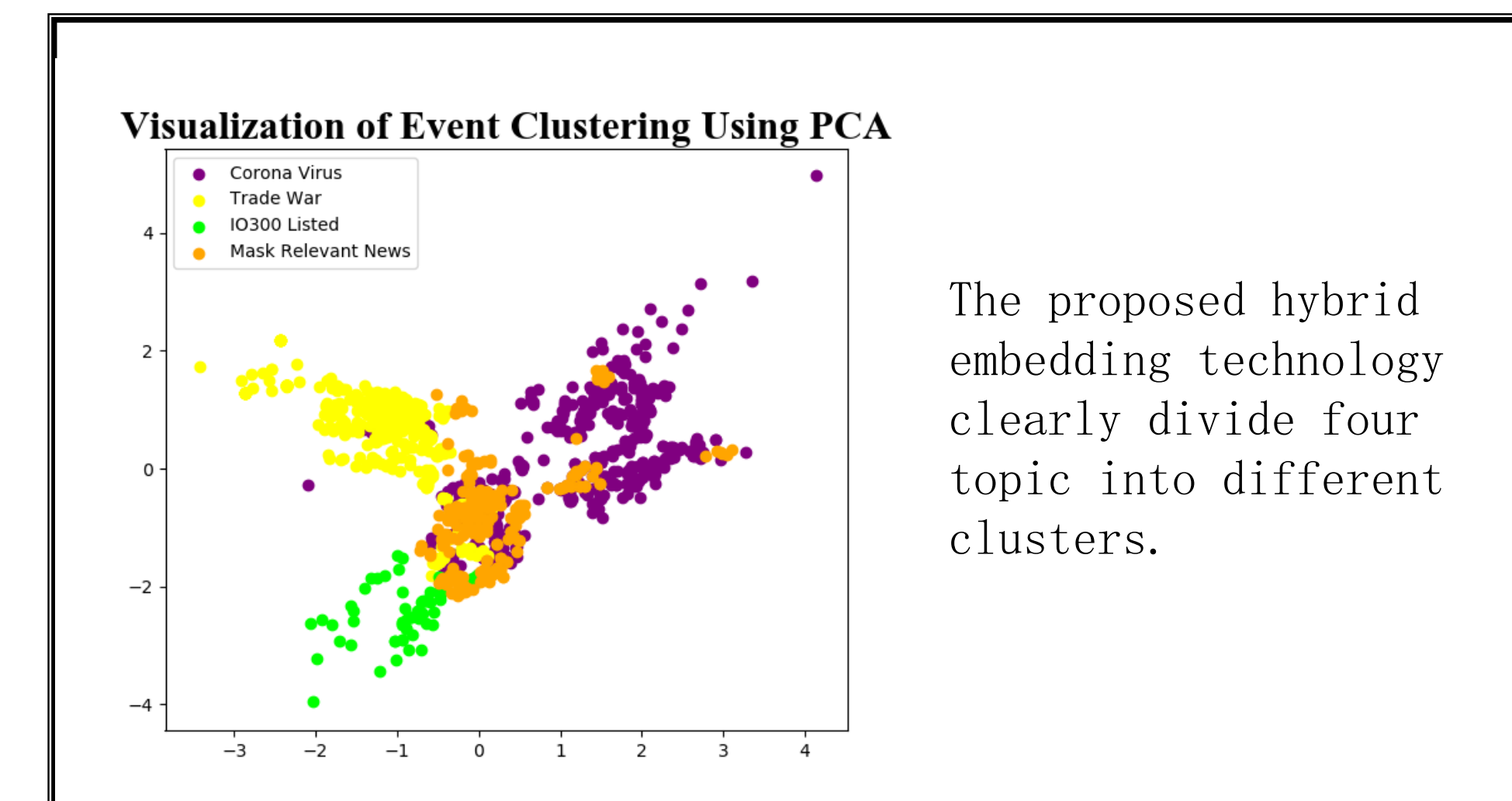
Highlights:

1. The hybrid embedding technology combining TFIDF and Bert
2. Analyzation between events and stock market trend in China

算法原理



实验仿真



论文结论

In this paper, online text cluster algorithm with three different of document embedding is present, which is applied to the topic detection and tracking of real-world Chinese financial news. The experiment results show that our method performs well on the online detection and tracking of financial news, which the hybrid method that utilizing the advantages of BERT and TF-IDF shows the best performance.

Furthermore, we expand our event recognition system on business analysis by analyzing correlation between the topic heat of important event and SH index using Pearson correlation method. The finding is that important event may has a great impact on stock and future market in China. It gives extra information in terms of news for investors when deciding buying and selling stocks, which validate the practical and economic value of the system.