Guest editorial

Informetrics on social network mining: research, policy and practice challenges

Introduction

Data Science or data driven science has recently attracted considerable attention. With advances in information technology and infrastructure, large amounts of data can be instantly analysed, interpreted and visualized by scientists. One of the popular emerged techniques in Data Science is social network mining and anticipatory computing. Informetrics is the study of quantitative aspects of scientific research, library and information science using methods from other fields, such as computer science, network science, social sciences, mathematical sciences, medical and biological sciences, financial, management and political sciences. The main focus is usually on bibliometrics, webometrics and altmetrics. These days many social networks (e.g. Academic Social Networks (ASNs)) have emerged for professional interactions between academic scholars.

Fewer research questions, diverse fields

Specifically, Informetrics on Social Network Mining is focussed on using data mining techniques for dealing with informetrics tasks in ASNs. The impact of research work is related to a scholar's reputation and future promotions. Greater research impact not only inspires scholars to continue their research, but also increases the possibility of a larger research budget from sponsors. In this issue, authors provided more particular and more diverse objectives. These papers can be grouped into two major fields.

The first field describes the "Informetrics". In this special issue, Arshad *et al.* (2019) extend the vocabulary of terms from the WordNet dictionary and Growbag data set to analyze the call for paper. The results show the scientific evolution and prestige of conferences can be predicted and understand the pattern. Chen (2019) and Su *et al.* (2019) adopt the open government data sets and bibliometric analysis to identify potential ASNs and finds ASNs may be formed before co-authorship networks or co-inventorship networks and also influences the outcomes of research collaborations. Liu *et al.* (2019) present a comprehensive literature review of big data and knowledge management with field-weighted citation impact metric. They claim that international collaboration and academic-corporate collaboration will play an important role in enriching the big data researches. In addition, Moradi (2019) also collects bibliometric data of 4,696 scientific works from Web of Science and uses the scientometrics and content analysis methods to analyze the research trends in smart cities. Zhao and Wang (2019) and Zhao and Bo (2019) use the altmetric indicators and integrate with traditional citation indicators to evaluate the impact of academic journals. Chen and Peng (2019) and Chen *et al.* (2020) also find the similarity findings with Liu *et al.* (2019) in the bank industries and the FinTech trend. Zhang and Zhang (2019) investigate the relationship between team heterogeneity and team performance around the social network environment. Khamparia *et al.* (2020) designed a multilevel framework that can be used to detect the anomalies present in the online social network. The results showed the Twitter and Facebook have the highest influence in the anomaly detection. Liu *et al.* (2020) adopt four indexes of scholars evaluation based on usage (total Usage (U), average Usage rate (U/N), h_u-index and p_u-index) to analyze the 35 high-output scholars in the field of library and information science in the WoS database.

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The second field focusses on "Techniques". In this special issue, Priya and Ch (2019) designed a novel hybrid semantic similarity measure (HSSM)-based ontology merging using formal concept analysis and semantic similarity measure. The HSSM method can be applied into various domain ontologies and social network mining. Hu (2019) designed high-frequency keyword co-occurrence network and clustering knowledge map to investigate the difference of subject service between Chinese and German libraries. Gao (2019) construct the social network prediction model based on data mining and link prediction analysis. Finally, the approach can obtain the characteristics of the community object and predict the unknown relationship in the social network. Zhu (2019) integrate the text mining and self-organizing map neural network approaches to analyze the Chinese patent infringement and also extend to the social network mining. Asmi *et al.* (2020) present a novel method to explore the union of all maximum spanning trees and models the strength of links between nodes. To extend this model, the researchers can extract local community for each node and analyze the neighborhood of network ink. Daud *et al.* (2020) modify the k-shell method to extend more sophisticated node ranking algorithms such as Neighbourhood Coreness (Cnc+), k-shell Iteration Factor and Hierarchical k-shell.

Conclusion

This special issue explores the use of informetrics technology to perform social network mining in library and information science. These submissions of original works based on interdisciplinary research (e.g. computer science and data science). This issue also covers both managerial and technological topics. Finally, this special issue receives large number of submissions and find out the informetrics technology with social mining, text mining and deep learning technologies have become important issues for library and information science research.

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