

Message from Editors-in-Chief

Dear readers,

It is our pleasure to introduce the second issue of the fourth volume of the *Journal of Social Computing*. This issue comprises the following six articles.

Source search is of great importance in our society, relating to identifying fire sources, gas sources, or signal sources. In the first article, “Leveraging Human-AI Collaboration in Crowd-Powered Source Search: A Preliminary Study”, Yong Zhao, Zhengqiu Zhu, Bin Chen, and Sihang Qiu propose a crowd-powered source search solution enabling human-AI collaboration, making use of human intelligence as external supports to improve existing search algorithms and meanwhile reduces human efforts using AI predictions. In addition, they design a crowd-powered prototype system and carried out an experiment with both experts and non-experts. Quantitative and qualitative studies show the sourcing search algorithm enhanced by crowd could achieves both high effectiveness and efficiency. This work provides valuable insights in human-AI collaborative system design.

Session-based recommender systems have become popular in next-item recommendations. The stable long-term interests and dynamic short-term requirements are two critical factors affecting user decisions. In the second article, “Enhancing Next-Item Recommendation Through Adaptive User Group Modeling”, Nengjun Zhu, Lingdan Sun, Jian Cao, Xinjiang Lu, and Runtong Li propose a recommendation model based on learning user embeddings by modeling long and short-term dynamic latent user groups. In particular, they utilize two network units to learn users’ long and short-term sessions, respectively, by employing a hierarchical neural network to build an end-end representation learning mechanism. Extensive experiments demonstrate that their model outperforms multiple state-of-the-art methods in terms of several key metrics, such as Recall, mean average precision (mAP), and area under curve (AUC).

With the rapid rise of new media platforms, communities with science communication characteristics have substantially grown on social networks. These communities pursue essential objectives such as increased visibility and influence. In the third article, “Counterfactual Reasoning over Community Detection: A Case Study of the Public Science Day Community”, Wenkang Jiang, Hongbo He, Lei Lin, Qirui Tang, and Runqiang Wang study the role of user influence in the detection of such communities. By integrating counterfactual reasoning theory into a community detection algorithm, the authors present a novel paradigm for eliminating influence bias in online communities. They consider the community of Public Science Day of the Chinese Academy of Sciences, and find that the propagation channel for the science communication experiment exhibits multi-point scattered propagation and lacks a continuous chain in the process of propagation.

With the advent of Industry 4.0, predictive maintenance (PdM) methods have been widely adopted by businesses to deal with the condition of their machinery, with the goal of reducing unscheduled maintenance, improving component utilisation, and lengthening the lifespan of the equipment. In the fourth article, “Developing an Integrated IoT Cloud Based Predictive Conservation Model for Asset Management in Industry 4.0”, Karnam Shanmugam, Kachhti Satyam, and Thimma Reddy Sreenivasula Reddy introduce a new approach to create a PdM planning model, which involves five key steps: data cleaning, data normalization, feature selection, decision making, and prediction. In particular, the golden search optimization (GSO) algorithm is leveraged for efficient feature selection, and a multilayer hybrid convolution neural network (MLH-CNN) is used for learning and prediction. The authors test on two datasets and show that it can accurately predict the future state of components for upkeep preparation.

In the fifth article, “Manager Mobility and Private Equity Syndications from the Perspective of Coupling Networks: Evidence from China’s Private Equity Industry”, Jie Ren, Xibao Li, and Likun Cao study whether manager mobility

can influence syndications between private equity (PE) firms by constructing coupling network models. Using data from China's private equity market from 1993 to 2017, the authors found that driving forces, resistant forces, and network structure play significant roles in determining resource flows between PE firms. Specifically, driving forces indicate that managers moving from domestic and foreign PE firms to state-owned PE firms are more likely to induce syndications. Furthermore, if the manager is promoted when changing jobs, mobility is likely to enhance the flow of resources. If managers leave PE firms with higher status, they are more likely to induce syndications. This study contributes to the coupling network literature by providing a clarified three-factor framework, and instantiating the syndication theory in China by exploring the characteristic of managers in state-owned private equity firms. This study can help private equity firms hire valuable managers and expand syndication networks in practice.

Shifting to negativity becomes more prevalent in online communities nowadays. While current research indicates a close relationship between group polarization and negative sentiment, they often link negative sentiment shifts with echo chambers and misinformation within echo chambers. In the sixth article, "Negative Sentiment Shift on a Chinese Movie-Rating Website", Hongkai Mao studies the sentiment drift using over 4 million comments from a Chinese online movie-rating community. He measures the sentiment shift of the community and users of different engagement levels. His analysis reveals that while the community does not show a tendency toward negativity, users of higher engagement levels are generally more negative, suggesting possible mechanisms of group identity on sentiment shift on social media platforms. These findings may guide web designers to tackle the negativity issue and expand sentiment shift analysis to non-English contexts.

We would like to thank our editorial board, reviewers, authors, and journal editorial office for their marvelous efforts in making this issue possible. We hope that our readers will enjoy reading these articles.

Editor-in-Chief James Evans
Editor-in-Chief Xiaoming Fu
Editor-in-Chief Jar-Der Luo