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Understanding Online Social Networking Services

J.UCS Special Issue

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Since there have been a number of online social networking services (SNS), we have been experiencing new social phenomena around us. Traditional social network analysis methods [Gan and Zhu 2007, Jung 2010] might have difficulties efficiently understanding the large-scale social data from such SNS [Jung 2012]. Moreover, as the area of social networks is a highly cross-disciplinary one, we aim to foster and develop sustainable collaborations between Computer Science and Informatics, Sociology, Cognitive Science and Psychology, Geographic and Environmental Science, Biology, and Health and Social Sciences [Jung 2009a]. This will provide an opportunity to push further the discussion regarding the potential of social networks and their applications across these communities. Due to their scale, complexity and dynamics, these networks are extremely difficult to analyze in terms of traditional social network analysis methods . On the other hand, the data about human communication, common activities and collaboration simultaneously provide new opportunities for new applications [Jung 2008b, Jung 2008a].

Thus, this special issue is focused on an analysis of these large-scale social structures and what is more important to identify the areas where social network analysis can be applied and provide the knowledge that is not accessible for other types of analysis. Additionally, applications of social networks analysis can be investigated either from a static or dynamic perspective. We seek for business and industrial applications of social network analysis that help to solve real-world problems. The area of social networks analysis and its applications bring together researchers and practitioners from different fields and the main goal of this special issue is to provide an opportunity to share visions, research achievements and solutions as well as to establish worldwide cooperative research and development. At the same time, we want to provide a platform for discussing research topics underlying the concepts of social network analysis and its applications by inviting members of different communities that share this common interest of investigating social networks.

In the first paper, Wilas Chamlertwat et al. presents the Micro-blog Sentiment Analysis System (MSAS) by using sentiment analysis to automatically analyze customer opinions from the Twitter micro-blog service. To evaluate the system, they conducted experiments on the collected posts related to smartphones showed that the system could help indicating the customers' sentiments towards the product features.

The second paper by Mahalakshmi G.S. et al. proposes the evolution of a knowledge network from the information available in digital bibliographic repositories, e.g., DBLP. The most important characteristic of this knowledge network would be the comprehension of the proficiency of the scientist in the perspective of an area of research. This is achieved by categorizing the research articles published by an author into specific domains. The quality of the research articles are ascertained by analyzing the abstracts within the domain. This analysis is used to determine the quality of the research article in terms of originality, relevancy and thereby, the impact of the article with respect to a research area.

The third paper by Xuan Hau Pham et al. introduces a concept of social pulse. They focus on a social tagging system where users can easily exchange resources as well as their tags with other users. Given a certain tag from a temporal folksonomy, the social pulse can be established by counting the number of users (or resources). Particularly, they discover meaningful relationship between tags by computing inducibility. To conduct experimentation, a tag search system has been implemented to collect a dataset from Flickr.

In the fourth paper, Ting Ting Qin and Satoshi Fujita focus on an unstructured p2p file sharing system. The aim of this work is to improve the efficiency of file search in such networks. The proposed scheme combines text clustering with a modified tag extraction algorithm, and is executed in a fully distributed manner. The optimal cluster number can also be fixed automatically through a distance cost function. We have conducted experiments to evaluate the accuracy of the proposed scheme.

In the fifth paper, Victor Ströele et al. assume that there are several inter and intra connections between people in and outside their organizations. They construct a multi-relational scientific social network where researchers may have four different types of relationships with each other. They adopt some criteria such as relationship age in order to assign a weight to relationships and to enable the modeling of a scientific social network as close as possible to reality.

This special issue has been achieved by a number of fruitful collaborations. We would like to thank the editor in chief of Journal of Universal Computer Science (JUCS), Hermann Maurer, for his kind support and help during the entire process of publication. This was possible thanks to the work of the renowned researchers that provided their anonymous reviews.

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