

Xinyu Jiang  
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109036441  
Paper Review for April 6

## Paper Review

### <Summary>

The paper “Understanding User Behavior in Online Social Networks: A Survey” emphasizes users' daily activities in social networks and analyzes the relationship between social activity and social network system. Therefore, the rest of the paper will analyze the application of online social networks based on the author's point of view.

In the essay, the author divides social networks into four categories: connectivity and interaction, traffic activity, mobile social behavior and malicious behavior (Jin, 2013). In each of the sections, the author introduces how user behavior information is carried and explains the structure of the relationship between individuals, groups, and society. In connectivity and interaction, the author uses social graphs to record user behavior. To accurately classify user information, the essay introduces four different types of graph sample techniques: friendship, interaction, latent and following graph (Jin, 2013). The aim using those methods is to solve the cost of data analysis, calculation and storage. Another interesting point that the author proposes is mobile user behavior. In this section, the author analyzes user behavior from the mobile devices' perspective. Different from data from laptops, mobile phones data is more relevant to users' needs. In addition to that, mobile social networks will help users share real-time information, including where they are, what they are doing, and who they are with. For example, a mobile-based social application (like Tinder) provides the ability for people who are interested in finding his/her partner with similar hobbies.

### <Strengths and weaknesses>

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The essay proposes four different techniques for user behavior analysis. In my opinion, it definitely improves classification accuracy. However, it also brings a lot of ethical problems. Excessive information exposure can lead to privacy infringements. For example, if a user posts a picture on his/her social media (like Instagram), voyeurs could analyze the picture and locate users' current location. In addition to that, online social networks could implicitly create a "information cocoon room". The system recommends users all kinds of content that users are potentially interested in based on user behavior. However, if users do not initiatively search new contents, then they will always hang around in the small circles.

#### **< Are the evaluations convincing?>**

The paper provides an overview of state-of-the-art user behavior analysis in online social networks. In the essay, it introduces four different user behavior analysis techniques: connectivity and interaction, traffic activity, mobile social behavior and malicious behavior. Also, to support the point, the author lists the importance of relationship structure, network groups and network information. Therefore, in my opinion, the evaluations that the author did are convincing.

#### **<Other applications>**

As mentioned above, excessive information exposure could bring a lot of ethical problems. To solve that problem, we could create an information supervision mechanism. For example, when users post a picture on social media, to protect users' privacy, the application could blur this image so that voyeurs cannot locate users' location.

Reference

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1. L. Jin, Y. Chen, T. Wang, P. Hui and A. V. Vasilakos, "Understanding user behavior in online social networks: a survey," in IEEE Communications Magazine, vol. 51, no. 9, pp. 144-150, September 2013, doi: 10.1109/MCOM.2013.6588663.