BRIGHAM AND WOMEN'S HOSPITAL

HARVARD MEDICAL SCHOOL

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Department of Medicine
Channing Division of Network Medicine

Channing Network Science Seminar
March 23rd (Friday), 2018, 11am @ 5th-floor conference room

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Modeling the Dynamics of WeChat Social System

The phenomena in social systems, just like many laws of nature, are of dynamic origins. For the first time, we systematically summarize our experiences in dealing with dynamic phenomena in WeChat social system, which is one of the largest and most complex social systems in the real world. A framework is proposed, which covers the pipeline of dealing with complex data, complex phenomena, complex mechanisms, a spectrum of methodologies, and various applications. By following our framework, we discuss four main aspects of dynamics in WeChat social system, including human dynamics, network dynamics, group dynamics and cascade dynamics. We abstract the data structures from the digital logs, investigate the phenomena we observed from the data, explain the possible mechanisms governing the phenomena, and give models we design according to our methodology spectrum to answer various WHEN" related questions. We illustrate the research network" underlying our framework when applied to four dynamic scenarios. Typical applications are summarized and illustrated. The framework we give could potentially guide future researches on social dynamics related problems, shedding light on modeling and designing data structures, explaining observed phenomena, inferring possible mechanisms, choosing and designing dynamic models, and pinpointing applications in the real-world social systems.

BIO: Mr. Chengxi Zang (臧承熙) is a Ph.D. candidate in computer science at Tsinghua University. He began his adventure by studying data mining, machine learning, statistical physics and nutritional epidemiology. He has done something exciting on the dynamics of complex social systems. For example, he is the first one who studied the evolution process of WeChat network at billion scale. He also investigated millions of information cascades in Tencent Weibo. Recently, He is studying the food and heart diseases. He has published several papers in top data mining and machine learning conferences/journals, including KDD, WWW, TKDE etc.

Hosted by Yang-Yu Liu