

Online Social Networks: Modeling and Mining

[Invited Talk]

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ABSTRACT

Online social networks have become major and driving phenomena on the Web. In this talk, we will address key modeling and algorithmic questions related to large online social networks. From the modeling perspective, we raise the question of whether there is a generative model for network evolution. The availability of time-stamped data makes it possible to study this question at an extremely fine granularity. We exhibit a simple, natural model that leads to synthetic networks with properties similar to the online ones. From an algorithmic viewpoint, we focus on data mining challenges posed by the magnitude of data in these networks. In particular, we examine topics related to influence and correlation in user activities and compressibility of such networks.

Categories and Subject Descriptors

H.2.8 [Database Management]: Database Applications—*data mining*

General Terms

Algorithms, Experimentation, Measurement, Theory

Keywords

Social networks, graph models, evolution, influence

Biography

Ravi Kumar joined Yahoo! Research in July 2005. Prior to this, he was a research staff member at the IBM Almaden Research Center in the Computer Science Principles and Methodologies group. His primary interests are web algorithms, algorithms for large data sets, and theory of computation. He obtained his PhD in Computer Science from Cornell University in December 1997.

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