SONIC SPEAKER SERIES

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Scalable Analysis for Large Social Networks: the data-aware mean-field approach

Monday, December 17th, 10:30am-11:45pm

Room 1.483, Frances Searle Building, Northwestern University, Evanston Campus

Biography

Julie's research works to comment on institutional influences on patterns of collaboration in producing research of interdisciplinary character. She specifically works to investigate the effects of institutional organizational processes on scientists' knowledge production processes. Using a combination of social network analysis, bibliometrics and computational social models (e.g. longitudinal actor-based network models s), Additionally, she is working within the Semantically Mapping Science Project (http://www.sms-project.org/) which implements the use of Web data to assess science.

Content

Studies on social networks have proved that both structure and social attributes influence dynamics. Two streams of modeling exist to explain the dynamics of social networks: 1) predicting links through network properties, and 2) considering the effects of social attributes. We work to overcome limitations within these current models. We employ a mean-field model which allows for the construction of a population-specific model informed from empirical research for predicting links from both network and social properties in large social networks. We prove that the mean-field model, using a data-aware approach, allows us to overcome computational burdens and thus scalability issues in modeling large social networks.

Additional info

http://sonic.northwestern.edu / A link to thecurrent work can be found here - http://arxiv.org/abs/1209.6615.