

Behavior Prediction in Complex Networks and Its Applications

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The interwoven world surrounding us consist of various networks. From network of computers on the Internet to social networks of friends, transportation networks and information networks embedded in the Web and datasets, interactions among network entities lead to complex behaviors for such systems. Predicting the behavior of a network of entities has different applications in various areas of science and engineering such as designing reliable physical networks, marketing strategies in recommender systems, security solutions and controlling strategies for epidemics. In this talk, we introduce network-behavior prediction models that join and exploit concepts from two traditional research areas: network science and prediction models. We will also provide application examples of such models in real-world problems including reliable network design and load balancing in networked datacenters.