Communities in Multilayer Networks

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007 Kemeny Hall, 3:30PM
Tea 3:00PM 300 Kemeny Hall

Abstract

Community detection describes the organization of a network in terms of patterns of connection, identifying tightly connected structures known as communities. A wide variety of methods for community detection have been proposed, with a number of software packages available for performing community detection. In the past decade, there has been increased interest in multilayer networks, a general framework that can be used to describe networks with multiple types of relationships, that change in time, or that network together multiple kinds of networks. We describe various generalizations of community detection to multilayer networks, including results about detectability limits and a new post-processing procedure to explore the parameter space of multilayer modularity, with an emphasis on using community detection in applications.

This talk should be accessible to undergraduates.