THE UNIVERSITY OF CHICAGO

Department of Statistics

STATISTICS COLLOQUIUM

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Community Detection with Nodal Information

MONDAY, February 20, 2017, at 4:00 PM
Eckhart 133, 5734 S. University Avenue
Refreshments before the seminar at 3:30 PM in Jones 111

ABSTRACT

Community detection is one of the fundamental problems in the study of network data. Most existing community detection approaches only consider edge information as inputs, and the output could be suboptimal when nodal information is available. In such cases, it is desirable to leverage nodal information for the improvement of community detection accuracy. Towards this goal, we propose a flexible network model incorporating nodal information, and develop likelihood-based inference methods. For the proposed methods, we establish favorable asymptotic properties as well as efficient algorithms for computation. Numerical experiments show the effectiveness of our methods in utilizing nodal information across a variety of simulated and real network data sets.

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