



THE UNIVERSITY OF CHICAGO

Department of Statistics

SCIENTIFIC AND STATISTICAL COMPUTING SEMINAR

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Flexible Spectral Methods for Community Detection

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133 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

We propose a class of flexible spectral methods for community detection in directed and undirected networks. These methods extract the clustering information by taking the entry-wise ratios of the eigenvectors, and can be adapted for different purposes including exploring substructures, incorporating covariates. Some practical guidance about the choice of the number of communities will also be provided. Then we demonstrate using the statistician coauthorship and citation data collected by ourselves, and show a handful of meaningful communities, such as “high-dimensional data,” “large-scale multiple testing,” “Dimensional Reduction,” “Objective Bayes,” and “Theoretical Machine Learning,” etc. This is a joint work with Jiashun Jin and Tracy Ke.

Organizers:

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