MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

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Empirical Likelihood Methods for Missing-data Analysis, Data Integration and More

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10:20 a.m. - 11:10 am
Refreshments 10:00 am
C405 Wells Hall

Abstract

The empirical likelihood (EL) methodology has been widely used in many research areas in statistics and has led to remarkable successes. This talk will start with an overview of EL and then focus on the effectiveness of our proposed EL methods for (i) missing-data analysis and (ii) data integration. For (i), EL leads to a significant improvement on the robustness against working model misspecifications. It allows multiple working models for both the selection probability and the data distribution, and produces a consistent estimator if one model is correctly specified. Some other desirable properties and extensions will also be discussed. For (ii), EL can successfully integrate auxiliary summary data with individual-level data from a current study to improve efficiency, especially when the populations for the auxiliary study and the current study have different covariate distributions. Such a method is very useful with the increasing availability of summary information from external data sources. Some possible future research directions will also be discussed at the end.

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