



THE UNIVERSITY OF
CHICAGO

Computational and Applied Mathematics
&
Statistics Student Seminar

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Neighborhood Selection with the Oracle Lasso in Sparse High-dimensional Graphs

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12:30 PM

Jones Laboratory,

Room 226

ABSTRACT

The zero restriction on the inverse of the covariance matrix of a multivariate normal distribution corresponds to the conditional independence between variables. The relation, also interpreted as no edges between variables in Gaussian Graphical Models, helps to cast the neighborhood selection problem into a regression problem. A Lasso solution is one approach to solve the regression problem with the constraint on the inverse of the covariance matrix. However, the penalty parameter λ does not come easy. Specifically, cross validation is commonly used to choose the penalty parameter. However, this should not be correct. In this talk, an empirical result as well as theoretical explanation would be addressed to understand why cross validation should not be used to generate the Lasso solution for the neighborhood selection problem.