



THE UNIVERSITY OF CHICAGO

Department of Statistics

DISSERTATION PRESENTATION AND DEFENSE

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Algorithmic and Statistical Optimality for High-Dimensional Data

THURSDAY, July 9, 2020, at 2:00 PM

See Zoom link info on following page

Sparsity is typically assumed somewhere in the problem when dealing with high-dimensional data. On the one hand, the challenge is to analyze and compare the behavior of different algorithms facilitating sparsity, since the statistical task are usually formulated into a non-convex optimization problem. On the other hand, when the sparsity structure interacts with other structure in data, the challenge is to determine the optimal statistical procedure. For the first part of the presentation, the question of algorithmic optimality is addressed for the class of iterative thresholding algorithms under the framework of restricted optimality. For the second part of the presentation, the question of statistical optimality is studied when sparsity structure interacts with changepoint structure under the minimax framework.

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