

# Operations Research and Engineering Management Dissertation Defense

## Nonconvex Optimization for Statistical Learning with Structured Sparsity

Ph.D. Dissertation  
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### Abstract

Sparse learning problems, known as feature selection problems or variable selection problems, are a popular branch in the field of statistical learning. Facing a dataset with only a few observations but a large number of features, we are interested in extracting the most useful features automatically by solving an optimization problem. In this dissertation, we start by introducing a novel penalty function as well as an iterative reweighted algorithm to solve a special type of feature selection problems, i.e., group sparsity problems. The penalty function

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