

國立東華大學應用數學系 專題演講

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講題：Simultaneous Grouping Pursuit and Feature Selection over a Graph.

時間：101年10月05日(星期五) 15:10-16:40

地點：理學院A324會議室

摘要

This talk is concerned with high-dimensional linear regression. We propose a regression method for simultaneous supervised clustering and feature selection over a given undirected graph, where homogeneous groups or clusters are estimated as well as informative predictors, with each predictor corresponding to one node in the graph and a connecting path indicating a priori possible grouping among the corresponding predictors. The method seeks a parsimonious model with high predictive power through identifying and collapsing homogeneous groups of regression coefficients. To address computational challenges in high-dimensional analysis, we propose an efficient algorithm integrating the augmented Lagrange multipliers, coordinate descent and difference convex methods. We prove that the proposed method not only identifies the true homogeneous groups and informative features consistently but also leads to accurate parameter estimation. Some numerical results will be given to demonstrate the effectiveness of the proposed method.



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