國立中山大學應用數學系 學術演講

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講 題: Interaction-based classification for

high-dimensional data

時 間:2014/03/20(星期四)14:10~15:00

地 點:理學院四樓理 SC 4009-1 室

茶 會: 15:00 於理 SC 4010 室 (系辦公室)

摘要

We will focus on a specific problem - use gene expression data to predict clinical outcomes of cancer, even though the method can be applied much more broadly. The problem is challenging not only because the number of variables p is much larger than the number of observations n. What's more challenging is that one needs to consider the interactive effects among variables on top of their individual marginal effects. We present a classification method incorporating interactions among variables based on a weighted chi-square statistic. The classification rule is a boosting ensemble of logistic-regression classifiers. Each classifier involves a module of variables, where interaction within the module is explicitly incorporated. We applied the proposed classification method to three well-known gene expression miroarray datasets and obtain good results.

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