

中央研究院統計科學研究所 學術演講

講題：The de-biased group Lasso estimation for varying coefficient models

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時間：2019年3月25日（星期一）上午10:30-12:00

地點：中央研究院統計科學研究所6005會議室(環境變遷研究大樓A棟)

※茶會：上午10:10開始

Abstract

There has been a lot of attention on the de-biased or de-sparsified Lasso since it was proposed in 2014. The Lasso is very useful in variable selection and obtaining initial estimators for other methods in high-dimensional settings. However, it is well-known that the Lasso produces biased estimators. Therefore several authors simultaneously proposed the de-biased Lasso to fix this drawback and carry out statistical inferences based on the de-biased Lasso estimators. The de-biased Lasso procedures need desirable estimators of high-dimensional precision matrices for bias correction. Thus the research is almost limited to linear regression models with some restrictive assumptions, generalized linear models with stringent assumptions and the like. To our knowledge, there are a few papers on linear regression models with group structure, but no result on structured nonparametric regression models such as varying coefficient models. In this paper, we apply the de-biased group Lasso to varying coefficient models and closely examine the theoretical properties and the effects of approximation errors involved in nonparametric regression. Some simulation results are also presented.

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