

國立政治大學統計學系

學術演講

主講人：江金倉教授（台大數學系暨應用數學科學研究所）

題目：Optimal Sufficient Dimension Reduction Score

時間：民國 106 年 3 月 20 日（星期一）下午 1：30

地點：國立政治大學逸仙樓 050101 教室

摘要：

To characterize the dependence of a response on covariates of interest, a monotonic structure is linked to a multivariate polynomial transformation of the central subspace (CS) directions with unknown structural degree and dimension. Under a very general semiparametric model formulation, such a sufficient dimension reduction (SDR) score is shown to enjoy the existence, optimality, and uniqueness up to scale and location in the defined concordance probability function. In light of these properties and the generalized single-index representation, two types of concordance-based generalized Bayesian information criteria are proposed to estimate the optimal SDR score. Different from the most existing SDR approaches, only one CS direction is required to be continuous in our methodology. In addition, we establish the consistency of structural degree and dimension estimators and the asymptotic normality of optimal SDR score. The performance and practicality of the proposals are also investigated through simulations and empirical illustrations.

歡迎參加

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