数学与系统科学研究院

计算数学所学术报告

报告人：**Senior Researcher Lin XIAO**

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报告题目：

Stochastic Primal-Dual Coordinate Method for Regularized Empirical Risk Minimization

邀请人：　　戴彧虹 研究员

报告时间：**2015** 年 **6** 月 **23** 日（周四）

下午 **16:30~17:30**

报告地点：　　科技综合楼三层

311 报告厅

Abstract:

We consider a generic convex optimization problem associated with regularized empirical risk minimization of linear predictors in machine learning. The problem structure allows us to reformulate it as a convex-concave saddle point problem. We propose a stochastic primal-dual coordinate (SPDC) method, which alternates between maximizing over a randomly chosen dual variable and minimizing over the primal variable. An extrapolation step on the primal variable is performed to obtain accelerated convergence rate (in the sense of Nesterov). We also develop a mini-batch version of the SPDC method which facilitates parallel computing, and an extension with weighted sampling probabilities on the dual variables, which has a better complexity than uniform sampling on unnormalized data. Both theoretically and empirically, we show that the SPDC method has comparable or better performance than several state-of-the-art optimization methods. This is joint work with Yuchen Zhang.

欢迎大家参加！