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**AI科学前沿系列学术讲座**

**报告题目：**GENERALIZED SPLIT LBI AND ITS APPLICATIONS

**报告人：**孙鑫伟（微软亚洲研究院）

**报告摘要：**Abstract. In this talk, I will introduce a novel algorithm which aims to recover the signal with structural sparsity under generalized linear model. It’s the combination of variable splitting and Linearized Bregman Iteration and can work with general loss function, we hence call it Generalized Split LBI (GSplit LBI). It’s proved to be equivalent to Mirror Descent Algorithm with specifically designed Bregman Distance. Rather than lasso which should pre-set a grid of regularization parameters, it can return a regularization solution path. In addition to such a simplicity, a path theory of model selection consistency can be ensured equipped with an early stopping and under weaker irrepresentable condition compared with generalized lasso. Furthermore, some l2 error bounds with Minimax Optimal Rate will also be introduced. Finally, I will present the applications of the proposed algorithm onto Alzheimer’s Disease and few-shot learning.

**报告人简介：**Xinwei Sun, Associate Researcher in Microsoft Research Asia. He received Phd from Peking University. During PhD, his research topics mainly focus on features selection in high dimensional data, statistical machine learning, with applications on medical imaging analysis, zero-shot learning, partial order ranking and deep learning. Recently, he is interested in applying statistics and optimization to theoretically understand the generalization power of existing deep learning models (e.g. CNN, ResNet and DenseNet). Such an understanding can provide insight for the development of new models, e.g. the compression of deep learning models, i.e., the propose of sparsity model with comparable predictive accuracy, reachability analysis, automatically tuning of hyper-parameters in deep learning models, etc.

**时间：**2019年4月11-12日8:30--17:30

**地点：**中教一、二层报告厅，7号楼报告厅，研究生院101报告厅

**主办**：研究生院

**承办**：图书馆

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