
Submission and Formatting Instructions for International Conference on Machine Learning (ICML 2015)

Abstract

1. Related Work

Chen et. al in (Chen et al., 2010) model climate data using dynamic graphs that vary spatially as well as temporally, though graphs that are adjacent in time or space are likely to be similar. It is a direct application of the Graphical Lasso technique (Yuan & Lin, 2007) after applying a kernel weighted combination of all the data discounted by time and space.

Xing et. al in (Xing et al., 2010) proposed a mixed membership model to represent the fact that each user may behave differently when interacting with his/her peers and this behavior changes over time. They improve on an existing static mixed membership stochastic block model by modeling temporal processes using a logistic-normal distribution over a simplex to address the dynamic aspects. They apply this model to a social network, an email communication network and a gene interaction network to discover patterns that emerge over time.

Chiquet et. al in (Chiquet et al., 2011) proposed methods for estimating graphs that are expected to be similar; for example, those corresponding to data generated in different runs of the same experiment. Their algorithm, Cooperative Lasso is based on Group Lasso, with added penalties that give preference to graphs that share similar sparsity patterns.

References

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