ΠΑΝΕΠΙΣΤΗΜΙΟ ΙΩΑΝΝΙΝΩΝ

ΤΜΗΜΑ ΜΑΘΗΜΑΤΙΚΩΝ

Εβδομαδιαίο Σεμινάριο

On the identifiability of Bayesian Factor Analytic models

Παναγιώτης Παπασταμούλης

Οικονομικό Πανεπιστημίο Αθηνών

A well known identifiability issue in factor analytic models is the invariance with respect to orthogonal transformations. This problem burdens the inference under a Bayesian setup, where Markov chain Monte Carlo (MCMC) methods are used to generate samples from the posterior distribution. We introduce a post-processing scheme in order to deal with rotation, sign and permutation invariance of the MCMC sample. The exact version of the contributed algorithm requires to solve $2q$ assignment problems per (retained) MCMC iteration, where q denotes the number of factors of the fitted model. For large numbers of factors two approximate schemes based on simulated annealing are also discussed. We demonstrate that the proposed method leads to interpretable posterior distributions using synthetic and publicly available data from typical factor analytic models as well as mixtures of factor analyzers.

pre-print: https://arxiv.org/abs/2004.05105

Τετάρτη 02 Ιουνίου 2021, 15:00

Η ομιλία θα γίνει μέσω της πλατφόρμας MSTEAMS