Selecting Moment Conditions in the Generalized Method of Moments for Mixture Models

Zhiyue Huang

MRC-Biostatistics Unit

Forvie Site, Robinson Way, Cambridge CB2 0SR, UK

e-mail: robin.huang@mrc-bsu.cam.ac.uk

The generalized method of moments for mixture models is proposed in [1]. This method involves a convex optimization problem: weighted projecting the sample generalized moments onto a generalized moment space. It has been shown that mixture models can be consistently fitted in point-wise by the generalized method of moments; see [1]. When the generalized moment conditions are carefully selected, the fitted models are robust to the outliers in the data at the cost of losing efficiency. However, it remains unclear that how to choose the generalized moments to balance the trade-off between the efficiency and the robustness. In this poster, we are going to investigate and discuss this problem through a few numerical examples.

Keywords: Generalized method of moments, Mixture models, Spectral decomposition.

References

[1] Huang Z. (2016), Fitting nonparametric mixture models with generalized moments, *to be submitted*.