



THE UNIVERSITY OF  
**CHICAGO**

Department of Statistics

MASTER'S THESIS PRESENTATION

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Using the EM Algorithm to Fit Mixtures of Shape Constrained  
Regression Models

WEDNESDAY, August 31, 2016, at 9:00 AM  
Jones 304, 5747 S. Ellis Avenue

ABSTRACT

Estimation of shape-constrained regression functions often involves no tuning parameter, which outperforms most of the nonparametric estimation techniques. However, it is more practical to take the heterogeneity property of subpopulations into account. A standard way of formulating this is as a mixture of shape constrained regression model. In this work, we propose a variant of EM algorithm to the special case of convex regression mixture model and empirically demonstrate its reasonableness for a few simulated examples.

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