Isotonic Distributional Regression under Likelihood Ratio Ordering

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Abstract:

In a univariate regression setting with generic observations (X,Y), it is possible to estimate the conditional distributions L(Y | X = x) consistently under the sole assumption that they are monotone increasing in x with respect to the usual stochastic order. After a short review of some results in this context, we discuss the stronger notion of likelihood ratio order and its connection to the assumption that the joint distribution of (X,Y) is totally positive of order two.

(This is joint work with Alexandre Moesching.)