THE UNIVERSITY OF CHICAGO | DEPARTMENT OF STATISTICS

MASTER'S THESIS PRESENTATION

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Simultaneous Predictions with Factor Model

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Zoom Meeting

ABSTRACT

Faced with a large number of series, it's little studied in the literature how to predict them simultaneously with theoretical guarantee. The naive Bonferroni method tends to give very wide intervals which is useless in this setting. In this paper, we introduce a new method to use factor model to give confidence intervals for all series. The confidence intervals are given to ensure the coverage ratio is greater than $1 - \alpha$ with probability $1 - \gamma$, where α and γ are given arbitrarily by users. We also do simulation and real data application, and both results show the method performs well.