TOPICS: Forecasting Large Panel Data with Penalized Least-Squares

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ABSTRACT:
"Forecasting Large Panel Data with Penalized Least-Squares"

Large Panel data arise from many diverse fields such as economics, finance, meteorology, energy demand management and ecology where the spatial-temporal data are collected. Neighborhood correlations allow us to better forecast future outcomes, yet neighborhood selection becomes an important and challenging task. In this talk, we introduce the penalized least-squares to select the neighborhood variables that have an impact on the forecasting power. An iterative two-scale approach will be introduced. The inherent error (noise level) will also be estimated in the high-dimensional regression problems, which serves as the benchmark of forecasting errors. The techniques will be illustrated in forecasting the US house price indices at various CBSA levels.