

SEMINARIO

Marc Hallin

Université libre de Bruxelles

Nonparametric Vector Quantile Autoregression

Abstract: Prediction is a key issue in time series analysis. Just as classical mean regression models, classical autoregressive methods, yielding L2 point-predictions, provide rather poor predictive summaries. A much more informative approach is based on quantile autoregression, where the whole distribution of future observations conditional on the past is consistently recovered. Since their introduction by Koenker and Xiao in 2006, autoregressive quantile autoregression methods have become a popular and successful alternative to the traditional L2 ones. Due to the lack of a widely accepted concept of multivariate quantiles, however, quantile autoregression methods so far have been limited to univariate time series. Building upon recent measure-transportation-based concepts of multivariate quantiles, we develop here a nonparametric vector quantile autoregressive approach to the analysis and prediction of (nonlinear as well as linear) multivariate time series.

This talk is based on joint work with Alberto González-Sanz and Yisha Yao

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