Lijian Yang (http://www.stt.msu.edu/~yang/)

Professor and Graduate Director

Department of Statistics and Probability

Michigan State University

Title: **Spline-backfitted kernel smoothing of nonlinear additive autoregression model.**

Abstract:

Application of non- and semiparametric regression techniques to high dimensional time series data have been hampered due to the lack of effective tools to address the ``curse of dimensionality''. Under rather weak conditions, we propose spline-backfitted kernel stimators of the component functions for the nonlinear additive time series data that is both computationally expedient so it is usable for analyzing very high dimensional time series, and theoretically reliable so inference can be made on the component functions with confidence. Simulation experiments have provided strong evidence that corroborates with the asymptotic theory.

Joint work with Li Wang, University of Georgia