



Estimation of a Dynamic Semiparametric Model
with Localized Temporal Effects

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A thesis submitted as partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE IN STATISTICS

School of Statistics
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May 2017

ABSTRACT

A model with dynamic training set in high dimensional data is overparameterized. To mitigate this problem, we proposed a dynamic semiparametric model with localized temporal effect for both the input and the output series. The model is then estimated using a hybrid of methods in the backfitting algorithm. Simulation studies shows relative advantage of the model in predictive ability specially for longer series (high frequency), for accounting more clusters (localized temporal effects), and increasing number of inputs. The proposed estimation procedure is also robust to presence of misspecification in the model error distribution.

Key words: additive model, backfitting algorithm, mixed model, dynamic semiparametric model.