

Title: Quarterly Time-Series Forecasting with Neural Network

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Motivation

Research on quarterly time-series data with
neural network

Related Work

- Mixed results have been reported on the relative merits

Main Contributions

- Conduct a comprehensive investigation of the effectiveness of several data preprocessing and modeling approaches

Solution

- Consider two data preprocessing methods and 48 NN models with different possible combinations of lagged observations, seasonal dummy variables, trigonometric variables, and time index as inputs to the NN
- Both parametric and nonparametric statistical analysis are performed to identify the best models under different circumstances and categorize similar models

Result

- Simple models, in general, outperform more complex models
- Data preprocessing especially with deseasonalization and detrending is very helpful in improving NN performance

Relation to our research

- Helpful to analysis of haze with ELM