



### Time Series Prediction Using SRE- NAR and SRE- ADALINE Dr. Amin Salih Mohammed, Shahab Wahhab Kareem, Ahmed khazal al azzawi and Dr.M. Sivaram

#### Abstract:

The aim of this paper is to investigate and compare different prediction methods for time series. The description of the Holt-Winters Additive Method, Holt-Winters Multiplicative and Autoregressive neural network (NAR) and Adaline algorithm are described and recommendations are offered on the choice of coefficients that affect the accuracy of prediction of time series. The best model to predict future values using nonlinear dataset and presenting the percentage error for each Statistical time series and machine learning algorithms was defined. To test the accuracy of these methods several experiments were held using real data on humidity from (1971-2001) from Iraqi Meteorological Organization and Seismology. The experiment shows that forecasting using Neural Networks Algorithms performs better in comparison with Statistical Time Series methods. Using Artificial Neural Networks are very easy to implement in time series prediction and do not need to know the statistics methods and algorithms about time series to calculate the physical characteristics and other parameters related to time series prediction. The prediction system only depends on learning past input values from periods and then predict the future values. It tries to minimize the errors based on numerous learning of algorithms and the predicted values are very close to the real values.

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