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Course: Big data and Business analytics[Capstone]

Assignment: 10

Date: April 1, 2017

Results:

The forecasters control the type 1 goodness which is consistency. If the forecasts correspond to judgments, type 1 goodness is satisfied. This makes it different from the other two types of

goodness.

It is the totality of the information, which contributes to the quality of the forecast.

The other aspects of quality are referred to as discrimination.

The sharpness of the forecasts correspond to the marginal distribution.

The relative forecasting is known by comparing the two levels of accuracy. The forecasts are

assessed by the information provided to the user.

By achieving the three types of goodness, we serve the users interest as well as forecaster’s interest.

Ignoring the uncertainty element affects the quality and value. In the distributed-oriented approach, It is possible to reduce the dimensionality and complexity.

No weather forecasting system can acquire hundred percent accuracy. Accuracy and skills are the two factors on which the weather forecasting depends upon.

The conditional mean dynamics reveal the time series modeling.

The weather forecasting methods are useful.

If the prespecified weather events occur, then the weather derivates are a new type of security.

Precipitation [Rainfall, Snow], maximum temperature and humidity are the different kinds of weather related variables.

Quantity hedging is determined by the weather forecasting, but price hedging is not.

The weather related changes in terms of quantities are protected by the weather derivative products.

Weather is a location specific commodity unlike crude oil. In the weather derivatives market, demand and supply sides are affected by weather forecasting.

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Auto regressive forecasts are the type of forecasts which involve seasonal, trend, cycle model.

The no change forecast is the first bench mark forecast which is known as persistence forecast.

The two component seasonal and trend model is the second benchmark model which uses

dummy variables to study the daily seasonal effects.

The artificial neural networks have advantages over the linear combination. The data about the different attribute are used to train and test different models. Accurate forecasts were produced by the Artificial neural networks.

Weather forecasting is a challenging task since weather is a data intensive and continuous process.

Artificial Neural networks help in solving many nonlinear problems of weather forecasting.

The process of Weather forecasting is done well by the artificial Neural Networks.

In The process of Neural networks, the different neural networks are trained and their predictions are collected. The weighted average of each network is the output of an ensemble.

The final decisions are based on the certainty of each classifier. The different results are produced By the different networks. From the view point of bias, the neural networks bring about greater accuracy. The final decision is obtained by the certainty of each classifier. Artificial neural networks do the training and testing of data in its models.

To minimize the Mean square error, the initial weights are trained.

The lower error and a reasonable learning time are the characteristics of the optimal network.

The different data patterns result in the different values of temperature, humidity and wind speed. The Neural networks are employed for hourly weather forecasting.

There is a challenge today to study the climate change and minimize the energy savings.

The room temperature is kept within the range to build climate control heating. The different

Actuators keep the room temperature in the comfortable range. The Actuators settings are adjusted to minimize the energy costs.

For simulation and control, a bilinear model is used. The actuators are in each system. They are employed for the following subsystems such as heating, cooling, ventilation.

The non linear problems are satisfied by the sequential linear programming.

Performance bound is used for perfect weather and its predictions.

There is an urgent need for reliable warning systems as the severity of floods increases.

The part of the uncertainties is predicted by the EPS forecasts.

In an urban atmosphere, the real time forecasting is caused by the neural network.

The success index forecasting is 78% with the neural classifier. In the real world a model called Neurozone is being used. The training data is updated every year. The air quality agencies perform tasks like monitor pollutants and inform authorities and public. The first air quality model Is a combination of chemistry, transport and dispersion.

The second model connects the level of pollutants directly to the meteorological conditions.

For the real time forecasting, the second approach is preferred. The daily ozone concentrations are affected by the daily emissions. The variability of the Ozone levels is best explained by the daily weather variations. The photochemical smog is produced in the summer where high temperature and low humidity prevail. The air quality agencies use the available variables in the statistical regression function to predict the weather.

The regression models and Ozone modeling are studied in depth.

The autocorrelation of the Ozone variability, the seasonality and trend are modeled by the time series Analysis. The cart method is associated with the regression analysis. The ozone prediction is tested by the non linear techniques. The neural network with a neural classifier and the Ozone modeling are used to improve the prediction. In the summer the ozone reaches peak values. The weather forecasts deliver the meteorological data.