Abstract

Port throughput forecast plays a great role in the development of port logistics economy. This paper works over that significant subject based on a new kind of nonlinear combination method, which is composed of linear exponential smoothing model, simple moving average method and Elman network. The forecasted values through the first two methods are taken as the inputs of Elman network, which are shown as medium and long-term effect.

According to the historical samples, Elman network is trained in supervised manner for the future forecast. In this way, different singular methods are combined together well and that new kind of nonlinear method shows higher forecasting accuracy.

At the last experiment, forecast value from port throughput which is get from nonlinear combination method, has smaller error from normal Mean Square Error (MSE) limit which stay around 0.1. So, it can be conclude that forecast value with nonlinear combination method has a good performance.

Key Words : Nonlinear CombIBation Method, Elman Network, forecasting, Port Throughput, Simple Moving Average Method, Linier Exponential Smoothing Model