Abstract

The advancement of modern technology and the speedy growth of human population has caused rapid expansion of energy consumptions. The necessity of efficient energy management and forecasting energy consumption know no bound. Developing large power system forecasting method using machine learning methods such as Artificial Neural Networks (ANN) is a prospective approach for such purpose. In recent years, load forecasting has become one of the major areas of research in Artificial Neural Network. This paper presents a model of time-series based short-term load forecasting for the dataset collected from Regional Power Control Center of a Saudi Electricity Company. Due to the potential of the architecture to take the advantages of both time series and regression methods, Artificial Neural Network performs better than other learning methods. The proposed architecture is explored by the clustering of datasets based on k-means clustering approaches and hence proved that it indeed works.


An Effective Artificial Neural Network based Power Load Prediction Algorithm

Index Terms

Computer Science

Artificial Intelligence
Keywords

Artificial Neural Network, Short Term Load Forecasting, Mean Average Percentage Error.