New Approach for Load Modeling

Authors : Slim Chokri

Abstract : Load forecasting is one of the central functions in power systems operations. Electricity cannot be stored, which means that for electric utility, the estimate of the future demand is necessary in managing the production and purchasing in an economically reasonable way. A majority of the recently reported approaches are based on neural network. The attraction of the methods lies in the assumption that neural networks are able to learn properties of the load. However, the development of the methods is not finished, and the lack of comparative results on different model variations is a problem. This paper presents a new approach in order to predict the Tunisia daily peak load. The proposed method employs a computational intelligence scheme based on the Fuzzy neural network (FNN) and support vector regression (SVR). Experimental results obtained indicate that our proposed FNN-SVR technique gives significantly good prediction accuracy compared to some classical techniques.

Keywords : neural network, load forecasting, fuzzy inference, machine learning, fuzzy modeling and rule extraction, support vector regression

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020