ISBN: 978-81-949112-9-6

Chapter 1 Prediction of Electricity Prices using Extreme Learning Machine

Manoj Kumar Behera and S. Chakravarty

Dept. of CSE, Centurion University of Technology and Management, Odisha, India

Abstract:

Forecasting plays a very important role in economic optimization of electricity usage. In the new competitive framework, short-term Price Forecasting is required by producers and consumers to derive their bidding strategies. Consumer and producers needs accurate price forecasting tools which are required for producers to maximize their profit and consumers required for maximize their utilities. This paper proposes an Extreme Learning Machine approach for forecasting short-term electricity prices. Extreme learning machine (ELM) is widely used as a learning algorithm for training single layer feed forward neural networks (SLFN) in the field of prediction. The proposed method is tested on Ontario Energy Market datasets. In this paper, both triangular (tribas) and radial basis (radbas) functions have been used. Simulation results shows that tribas outperforms radbas.

Keywords: Electricity Price; ELM; ANN

1. Introduction

Market is the key aspect in every field of economic activities. With the spread of privatization, liberalization and globalization, economic activities are increasingly