conferenceseries.com SciTechnol

3rd International Conference on
Big Data Analysis & Data Mining
September 26-27, 2016   London, UK

Application of soft computing techniques to forecast monthly electricity demand

Hsiao-Fan Wang
National Tsing Hua University, Taiwan

Electricity demand forecasting is an important tool for energy generation enterprise to develop electricity supply system. The purpose of this study is to develop monthly electricity forecasting model in order to predict electricity demand for energy management. Since the influence of the weather factors such as temperature and humidity are diluted in an overall value that represents the total monthly electricity demand, therefore the forecasting model uses only historical electricity consumption data as an integrated factor to obtain future prediction. This study presents an approach to monthly electricity demand time series forecasting model, including two series of the fluctuation and trend series. The trend series describe the trend of the electricity demand series and the fluctuation series describe the periodic fluctuation that imbedded in the trend. Then an integrated genetic algorithm and neural network model are trained for forecasting the trend series. Since the fluctuation series presents an oscillatory behavior, we apply Fourier series to fit the fluctuations series. Validation is made by using electricity demand data in United States to evaluate the proposed model and compare that with model solved by using neural network only.

hsiaofanwang@gmail.com

Enterprise ecosystem and evolutionary dynamics of social networks

Svetlana Maltseva
National Research University-Higher School of Economics, Russia

Modern enterprise ecosystem is a complex network structure, which brings together networking communities that formed by its objects. Examples of such communities are consumer networks, partner networks, employee networks, market places, etc. Ecosystem of a particular company is not closed. She has, as a rule, the intersection with the ecosystems of other enterprises. In addition, general social network expands its boundaries, as most objects are objects or users of social networks. Thus, its dynamics is determined not only by internal causes, but is dependent on the evolutionary dynamics of social networks. Given the current level of influence, social networking and their information, in addressing the many challenges of decision-making, analytics and management crowdsourcing technology are effective. Also enterprises use the monitoring of social networks in marketing analytics, sentiment analysis, recommended systems, identification and assessment of external risks, etc. It also examines the impact of networks evolution on the ecosystem of enterprise. Current processes of social network development can be both stochastic and controlled. At the same time the controlled development is becoming a task of an increasing importance for business application. Important tasks are network stability analysis, determination of a set of control parameters, conditions of self-organization and appearance of a dynamic chaos. New approaches to social network modeling on the basis of conditionally textured resource environment conception are used.

smaltseva@hse.ru

J Comput Eng Inf Technol 2016
ISSN: 2324-9307 JCEIT, an open access journal

Data Mining 2016
September 26-27, 2016

Volume 5, Issue 4(Suppl)

Page 61