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Artificial Neural Network-Based Short-Term Load Forecasting for Mymensingh Area of Bangladesh

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Abstract : Electrical load forecasting is considered to be one of the most indispensable parts of a modern-day electrical power system. To ensure a reliable and efficient supply of electric energy, special emphasis should have been put on the predictive feature of electricity supply. Artificial Neural Network-based approaches have emerged to be a significant area of interest for electric load forecasting research. This paper proposed an Artificial Neural Network model based on the particle swarm optimization algorithm for improved electric load forecasting for Mymensingh, Bangladesh. The forecasting model is developed and simulated on the MATLAB environment with a large number of training datasets. The model is trained based on eight input parameters including historical load and weather data. The predicted load data are then compared with an available dataset for validation. The proposed neural network model is proved to be more reliable in terms of day-wise load forecasting for Mymensingh, Bangladesh.

Keywords : load forecasting, artificial neural network, particle swarm optimization
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