

AN ACCURATE ENSEMBLE NEURAL NETWORK MODEL TO ESTIMATE RAINFALL

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Abstract

In this work, two Artificial Neural Network (ANN) models, namely, Single Neuron Network (SNN) and Ensemble Neural Network (ENN) models are developed to predict the rainfall with different training algorithms for one of the large cities of India i.e. Bangalore. The rain fall data was collected for three years on hourly basis in the form of rain gage data and the same is used for training and testing the ANN models. Different network models were developed to match the predicted results with the actual data and the ANN model with hyperbolic tangent transfer function is found to be the best model among all. Finally, two kinds of results are presented: the first set of results compare the performance of the SNN vs ENN for the back propagation algorithm and other set of results compare the performance of the ENN for different training algorithms.

Keywords: Artificial Neural Networks, Rainfall Prediction, Ensemble Neural Networks, Training Algorithms