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Multilayer Perceptron Neural Network for Rainfall-Water Level Modeling

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Abstract : Floods are one of the deadliest natural disasters which are very complex to model; however, machine learning is opening the door for more reliable and accurate flood prediction. In this research, a multilayer perceptron neural network (MLP) is developed to model the rainfall-water level relation, in a subtropical monsoon climatic region of the Bangladesh-India border. Our experiments show promising empirical results to forecast the water level for 1 day lead time. Our best performing MLP model achieves 98.7% coefficient of determination with lower model complexity which surpasses previously reported results on similar forecasting problems.

Keywords : flood forecasting, machine learning, multilayer perceptron network, regression
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