

Enhancing Neural Network Training by Using Artificial Bee Colony Algorithm

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Abstract

Multilayer feedforward networks are one of the most used neural networks in various domains because of their universal approximation ability. One of the popular algorithms for training multilayer feedforward network is backpropagation which uses two phase namely feedforward and backpropagate to learn the weight in the network. The main disadvantage of the backpropagation algorithm is its convergence rate is slow at it always being trapped in local minima. Artificial Bee Colony (ABC) algorithm is one of the most recently introduced swarm-based algorithms. ABC simulates the intelligent foraging behavior of a honeybee swarm. The proposed method in this paper includes an artificial bee colony algorithm based neural network training method and back-propagation based neural network. And then compare accuracy and mean square rate for both neural network training. Four type of UCI datasets are used for both neural network training.