Abstract

The models of artificial neural networks are applied to find solutions to many problems because of their computational power. The paradigm of multi-layer perceptron (MLP) is widely used. MLP must be trained before using. The training phase represents an obstacle in the formation of the solution model. Back-propagation algorithm, among of other approaches, has been used for training. The disadvantage of Back-propagation is the possibility of falling in local minimum of the training error instead of reaching the global minimum. Recently, many metaheuristic methods were developed to overcome this problem. In this work, an approach to train MLP by Multi-Verse Optimizer (MVO) was proposed. Implementing this approach on seven datasets and comparing the obtained results with six other metaheuristic techniques shows that MVO exceeds the other competitors to train MLP.

References


Index Terms

Computer Science  Artificial Intelligence

Keywords
Efficiency of Multilayer Perceptron Neural Networks Powered by Multi-Verse Optimizer

Training neural network, back propagation, multi-verse optimizer, classification.