Abstract

Neural networks have found many applications in the real world. One of the important issues while designing the neural network is the size of the architecture. Dynamic learning algorithms aim to determine appropriate size of the network during learning phase. The dynamic learning algorithm by pruning involves in removing networks elements such as nodes, weights or biases from the network to reduce its size and make network size appropriate to solve a problem. In this paper two dynamic learning by pruning methods have been integrated with multilayer feed-forward neural network. The Optimal Brain Damage method is the connections (weights or biases) pruning method and Bottom Up Freezing method involves in freezing and pruning of nodes. The experiments have been conducted on MNIST handwritten database. The learning behavior of the multilayer feed-forward neural network integrated with OBD and BUF method has been analyzed.

References


Multilayer Feed-Forward Neural Network Integrated with Dynamic Learning Algorithm by Pruning of Nodes and Connections

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Index Terms

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Pruning  Dynamic Learning  Freezing  Neural Network