Abstract

The problem which is occurring nowadays for networks is reliability as the networks are becoming more wide and complex. Reliability is the ability of a network to carry out a desired operation such as "communication". It is one of the most important aspects of networks for solving complex problems. The network should have minimum failure and should be cost-effective. The solution can be attained by using artificial neural network. An Artificial Neural Network is a highly simplified model of the structure of the biological neural network. It consists of interconnected processing units. The weight present between the connections is used for activation value. The inputs or outputs of the artificial neural networks could be discrete or continuous and also could be deterministic or stochastic. The activation dynamics determine the activation values of nodes. Synaptic dynamics is to adjust the weights in order to store given patterns in the network. This paper presents different measures of the reliability of the network by using Artificial Neural Network. The evaluation of the network is been done by studying various approaches to reliability measurement. The aim of the work is to present an optimized neural network approach to improve reliability with a high learning rate.
References

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Use of Activation Values and Weight Space by Activation and Synaptic Dynamics for Network Reliability Measurement

Index Terms

Computer Science  Networks

Keywords

ANN, Neuron, Activation Value, Network Reliability.