Abstract

This paper encompasses application of the Neural Network Tool (NN Tool) in the glass classification problem and also discusses the correlation of the different activation functions with the Mean Square Error (MSE). This paper works on the glass data classification and finds the impact of different Activation functions on the error obtained while training and testing of the neural network model created by the NN Tool provided by the MATLAB Toolbox. Experiment
was conducted on the MATLAB (NN tool) with glass data it has been observed that LOGSIG function gives the minimum MSE and gives more accurate results in comparison to the other activation functions provided by MATLAB (NN Tool). This paper highlights the relation of the nature of the dataset and the activation functions on the error obtained from the training of neural network model. In future by observing the limitations and effect of the different parameters such as number of hidden layers, activation functions, nature of the data, adjustments of weights, size of data and many more on the network modeling we will be able to understand and develop an improved algorithm and data mining tool for neural network classification technique with more accurate results.

References

- Suresh, G. V. , Suresh Babu, K. , Karunakar, K. , And Vijaya Kumar, N. , &quot;A Novel Based Approach For Uncertain Data Classification Using Probabilistic Neural Networks&quot;, Journal of theoretical and applied Information Technology, Vol 27, No. 2, 31May, PP 77-84, 2011.
- Arulmozhvi, V. , &quot;Classification task by using MATLAB Neural Network Tool Box – A Beginner’s View&quot;, International Journal of Wisdom Based Computing, Vol. 1 (2), PP 59-60, August 2011

Index Terms

Computer Science
Neural Networks
Case Study on Classification of Glass using Neural Network Tool in MATLAB

**Keywords**
- Neural Networks
- Data Mining
- Activation Function
- Matlab.