A Comparison of Supervised Multilayer Back Propagation and Unsupervised Self Organizing Maps for the Diagnosis of Thyroid Disease

Abstract

Artificial Neural Networks have been widely used for the purpose of medical diagnosis in the last decades. The diagnosis of diseases such as thyroid using artificial neural networks is an important research area because of the need of more and more accuracy in the crucial process of disease diagnosis. This paper presents a comparison of two artificial neural network algorithms viz. Multilayer Back Propagation (BPN) - a supervised approach and Self Organizing Maps (SOM) - an unsupervised approach for the diagnosis of thyroid disease using real patient data. It has been found in this study that the results of unsupervised SOM network performed equally well with 100% accuracy as the supervised BPN network in less training time but with a comparatively large percentage of training data.

References

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