Abstract

A brain tumor is the growth of abnormal cells within the brain; and it can be benign or malignant. Traditional diagnostic techniques involve invasive techniques such as biopsy, lumbar puncture, and spinal tap method, to detect and classify brain tumors. A computer aided diagnosis algorithm has been designed so as to increase the accuracy of brain tumor detection and classification, and thereby replace conventional invasive and time consuming techniques. One of the most effective and common tool for diagnostic and treatment evaluation for brain interpretation has been magnetic resonance imaging (MRI). In this study an Intelligent-Model for Automatic Brain-Tumor Diagnosis Based-on MRI Images was introduced; in which, the (MR) images are classified into normal, Edema, Cancer, or Not classified. The proposed method consists of three stages: In the first stage a preprocessing of brain image is done to remove the noise and to increase and enhance the contrast using multiple steps, secondly texture features was extracted, and then reduced dimensionality based on PCA, and finally Back-Propagation Neural Network (BPNN) based-on Pearson correlation coefficient was used to classify the brain images. Experimental results show that our proposed model achieves accuracy of 96.8%
References

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Index Terms

Computer Science
Artificial Intelligence

Keywords
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