Abstract

A Brain Tumour is one of the serious problems among various other existing life threatening diseases. Tumour detection is done initially by MRI, BIOPSY, SPINAL TAPE TEST, ANNINOGRAM and by some other similar kind of tests. All these tests are not only painful but are expensive too. Hence a brain tumour detection and classification system is required for early detection and categorization of tumour. In this paper we will study and analyze already proposed systems and will try to find the efficient and effective approaches. Tumour has a variant and complex structure and hence its classification is difficult. In the first phase Image pre-processing is performed initially on MR images of the patients to enhance features of brain cells and then a neural based classifier is implemented. BPNN, Radial basis and SMO based classifiers are examined. SMO when used with k-means clustering provides a more accurate system. We have a learning phase where ANN is trained or learned by providing some images which are already classified as cancerous and non-cancerous. After learning phase classification system is tested by giving some new inputs and comparing the results.

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Magnetic resonance Imaging (MRI)  Back propagation network (BPNN)  Sequential minimal optimization (SMO)