Embedded Technosolutions
Venture of IIT Bombay & VJTI Alumni

Classification of Brain Tumour by Using Image Processing & Data Mining

ABSTRACT

The field of medical imaging is gaining importance with an increase in the demand for automated, reliable, fast and efficient diagnosis which can provide insight to the image better than human eyes. Brain tumour is the second leading cause for cancerrelated deaths in men in age 20 to 39 and fifth leading cause cancer among women in same age group. Brain tumours are painful and may result in various diseases if not cured properly. Diagnosis of tumor is a very important part in its treatment. Identification plays an important part in the diagnosis of benign and malignant tumours. A prime reason behind an increase in the number of cancer patients worldwide is the ignorance towards treatment of a tumor in its early stages. This paper discusses such an algorithm that can inform the user about details of tumor using basic image processing techniques. These methods include noise removal and sharpening of the image along with basic morphological functions, erosion and dilation, to obtain the background. Subtraction of background and its negative from different sets of images results in extracted tumor image. Plotting contour and c-label of the tumor and its boundary provides us with information related to the tumor that can help in a better visualization in diagnosing cases. This process helps in identifying the size, shape and position of the tumor. It helps the medical staff as well as the patient to understand the seriousness of the tumor with the help of different color-labeling for different levels of elevation. A GUI for the contour of tumor and its boundary can provide information to the medical staff on click of user choice buttons.