

Brain Tumor Detection using Deep Learning

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Abstract: *The anomalous development of cells in brain causes brain tumor that may lead to death. The rate of deaths can be reduced by early detection of tumor. Most common method to detect the tumor in brain is the use of Magnetic Resonance Imaging (MRI). MR images are considered because it gives a clear structure of the tumor. In this paper we proposed a novel mechanism for detecting tumor from MR image by applying machine learning algorithms especially with CNN model.*

The motivation behind this study is to detect brain tumor and provide better treatment for the sufferings. The abnormal growths of cells in the brain are called tumors and cancer is a term used to represent malignant tumors. Usually, MRI scans are used for the detection of cancer regions in the brain. Positron Emission Tomography, Cerebral Arteriogram, Lumbar Puncture, Molecular testing are also used for brain tumor detection. In this study, MRI scan images are taken to analyze the disease condition. Objectives of this research work are:

- i) Identify the Abnormal Image
- ii) Segment Tumor Region.

Density of the tumor can be estimated from the segmented mask and it will help in therapy. Deep learning technique is employed to detect abnormality from MRI images. Multilevel thresholding is applied to segment the tumor region. Number of malignant pixels gives the density of the affected region.

Keywords: tumor

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