BRAIN TUMOR DETECTION USING CONVOLUTIONAL NEURAL NETWORK

A project report submitted in partial fulfillment of the requirements for the award of the Degree of

Bachelor of Technology

in

Electronics and Communication Engineering

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ABSTRACT

The human brain is the major controller of the humanoid system. The abnormal growth and division of cells in the brain lead to a brain tumor, and the further growth of brain tumors leads to brain cancer. In the area of human health, Computer Vision plays a significant role, which reduces the human judgment that gives accurate results. CT scans, X-Ray, and MRI scans are the common imaging methods among magnetic resonance imaging (MRI) that are the most reliable and secure. MRI detects every minute objects. The main aim of the project is to focus on the use of different techniques for the discovery of brain cancerusing brain MRI. In this project, pre-processing using the Bilateral Filter (BF)for removal of the noises that are present in an MRI image was performed and this was followed by the binary thresholding and Convolution Neural Network (CNN) segmentation techniques for reliabledetection of the tumor region. Training, testing, and validation datasets are used. In the proposed method, brain MRI image is classified as a brain tumor or non-tumor. The resultant outcomes will be examined through various performance evaluation metrics that include accuracy, sensitivity, and specificity. It is desired that the proposed work would exhibit a more exceptional performance over its counterparts.

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