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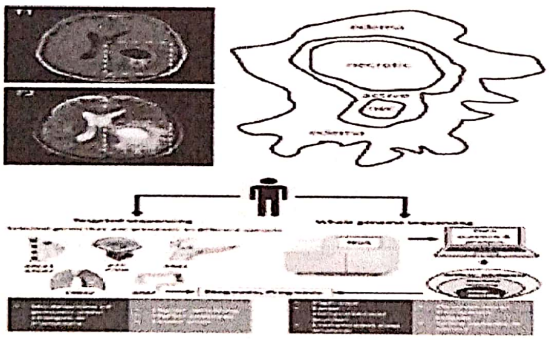
(57) Abstract :
Deep Learning based Automatic prevention and detection of Brain tumor using Image processing, Data mining and Machine Learing algorithms for Smart Helatheare system Abstract: People of any age can be diagnosed with brain tumours, making them one of the most common types of malignant tumours. When it comes to health monitoring and automated determination, recognising its grade can be difficult for radiologists; nevertheless, IoT can provide assistance in this area. Using pictures obtained from magnetic resonance imaging (MRI), it is absolutely necessary to identify and categorise contaminated tumour areas. There are many different types of tumours, such as glioma tumours, meningioma tumours, pituitary tumours, and even no tumours at all (benign). One of the most difficult components of classifying brain tumours is figuring out how to identify the type of tumour and how to stop it from developing. In the medical literature, there have been published a great number of different classification systems for brain tumours that are based on deep learning. The most cutting-edge technique in deep learning, known as a CNN (Convolutional Neural Network), was applied to analyse MRI scans of the brain in order to spot a tumour. However, there are still problems with the training procedure, which takes a considerable amount of time. The primary objective of this project is to design and implement a computational system for the internet of things that is based on deep learning and can detect brain cancers in MRI scans. According to the findings of this research article, integrating a CNN (Convolutional Neural Network) with an STM (Long Short Term Memory) can enhance the capacity of CNNs to extract features. The layered LSTM-CNN design performs better than the normal CNN classification when it is used to the task of picture classification. Experiments are carried out in order to forecast the performance of the proposed model by making use of the Kaggle data set, which comprises 3264 MRI scans. The dataset is divided into two sections: the first contains 2870 images that are used for training, and the second contains 394 pictures that are used for testing. The results of the experiments show that the suggested model achieves a higher level of accuracy than previous CNN and RNN models.



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