Stroke Analysis through the detection of Brain Tumors using CNN architecture

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PROPOSAL DETAILS

(SRG/2022/000276)

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Technical Details :

Scheme :	Start-up Research Grant		
Research Area :	Electronics Engineering (Engineering Sciences)		
Duration :	24 Months	**Contact No :**	+919345799777
Date of Birth :	05-Dec-1980		
Nationality :	INDIAN	**Total Cost (INR) :**	18,52,050

Project Summary :

The methodology for stroke analysis through the detection of brain tumors using proposed Convolutional Neural Networks (CNN) architecture is proposed in this research work. The brain Magnetic Resonance Imaging (MRI) images from open access dataset are data augmented to increase the count of the samples to validate the robustness and efficiency of this proposed system. The data augmented brain MRI images are classified into either healthy brain image or brain tumor image using the proposed and developed CNN architecture. The Graph cut segmentation technique is applied on the brain tumor image to detect the tumor pixels in the classified brain tumor image. Then, the locations of the segmented tumor pixels in the classified brain tumor image are analyzed to detect the stroke occurrence in the brain MRI image.

Objectives :

• To Analyze the impact of the brain tumors for the detection of stroke pixels in brain images
• Graph cut segmentation algorithm is applied on the brain tumor image to locate the pixels which are belonging to tumor

Keywords :
Magnetic Resonance Imaging, Convolutional Neural Networks

Expected Output and Outcome of the proposal :

This project can be implemented with hospitals and primary health centers to test or screen the patients those who are affected by tumors and also the possibility risk of the stroke due to tumors. This fully automated system will help the radiologist of physician to analyze the impact of stroke due to brain tumors with less detection time, which saves the human life.