

## **Accurate Classification and Detection of Brain Cancer Cells in MRI and CT Images using Nano Contrast Agents**

Segmentation of brain tumor is one of the crucial tasks in medical image process. So as to boost the treatment prospects and to extend the survival rate of the patients, early diagnosing of brain tumors imagined to be a crucial role. Magnetic Resonance Imaging (MRI) is a most widely used diagnosis method for tumors. Also current researches are intended to improve the MRI diagnosis by adding contrast agents as contrast enhanced MRI provides accurate details about the tumors. Computed Tomography (CT) images also provide the internal structure of the organs. The manual segmentation of tumor depends on the involvement of radiotherapist and their expertise. It may cause some errors due to the massive volume of MRI (Magnetic Resonance Imaging) data. It is very difficult and time overwhelming task. This created the environment for automatic brain tumor segmentation. Currently, machine learning techniques play an essential role in medical imaging analysis. Recently, a very versatile machine learning approach called deep learning has emerged as an upsetting technology to reinforce the performance of existing machine learning techniques. In this work, a modified semantic segmentation networks (CNNs) based method has been proposed for both MRI and CT images. Classification also employed in the proposed work. In the proposed architecture brain images are first segmented using semantic segmentation network which contains series of convolution layers and pooling layers. Then the tumor is classified into three different categories such as meningioma, glioma and pituitary tumor using GoogLeNet CNN model. The proposed work attains better results when compared to existing methods.