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(54) Title of the invention : A SYSTEM AND METHOD OF INVARIANT FEATURE BASED BRAIN TUMOR DETECTION AND CLASSIFICATION USING YOLO AND R- CNN

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(57) Abstract :

The present invention discloses, instead of training the classifiers with hand-crafted features, neural network based tumor detection and classification is used. This method achieves promising result better than humans. Invariant feature concept is added to the existing Darknet Architecture of You Only Look Once (YOLO) and is combined with Faster Region-Based Convolutional Neural Networks (Faster R-CNN) to count the number of tumors with different spatial locations. This combined model improved feature extraction step and tumor classification process. The proposed technique uses MR images from BRATS 2016 data set. Nearly 1000 brain MR images available are used to test for counting benign and malignant tumors. Experimental results proved that the proposed system is better by 9% in detecting smaller objects than existing works.

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