Chest tumour Classification

ABSTRACT

Image Processing is a growing and demanding field. Various types of imaging methods (CT scans, X-Ray, MRI) can be used to extract meaningful information about the body or find even the smallest of abnormalities in human body. These images first go through a number of data cleaning processes and after being processed by the modal the tumor can be identified and classified.

The process of detecting and classifying tumor from an Image (MRI, CT scans) can be classified into four different categories: Pre-Processing, data augmentation, training and Optimization and Prediction. The model is coded using python language and various machine learning libraries like keras, theano, CNN and Tensorflow. Supervised learning will be used to train the Convolutional neural network. The final results show the type of identified tumor. The validation accuracy of the modal will be calculated with a new data on which it has not been previously tested to provide unbiased result.

The entire project will be hosted in a web server which holds a weighted model for optimal prediction and can be used on any smart device by uploading the patients scan to the website which will make it accessible in any location with internet connectivity.

The web server hosting the application makes the detection process lightweight and much faster than loading a model on a system while providing access to such useful resource to places with lack of medical personals. It can process through X-ray scans to filter out possible tumor patients to be focused.

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