

Lung Cancer Prediction using Deep Neural Networks

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Abstract: Lung cancer is one of the leading diseases caused all over the world. In India one of the most occurring diseases is lung cancer and lot of people die due to the reason that it can only be cured during its initial stages. It is caused by the uncontrollable growth of cells in the lung tissues. It can only be treated in its early stages, when therapy is started. Computed Tomography (CT) scans and blood test data are used to identify this. The tumor is diagnosed by a blood test after individuals have been impacted for at least four years.

CT scanning is used to determine the early stage of cancer. The CT pictures are divided into two categories: normal and pathological. Focusing on the tumor part of the picture reveals the aberrant image. The collection consists of Computed Tomography (CT) pictures in jpg format. The Convolutional Neural Network is used to train the suggested model (CNN). During the training, picture enlargement techniques such as zooming, cutting, horizontal filling, and twisting were used on the dataset to improve the classification success rate.

Lung cancer is detected using pre-trained ImageNet models such as LeNet, AlexNet, and VGG-16. The suggested model is based on the AlexNet model, and the features extracted from the network's final fully connected layer were used as distinct inputs to the SoftMax classifier. The combination of AlexNet and the SoftMax layer resulted in a 100 percent accuracy. The suggested methodology can be used to diagnose lung cancer in a consistent and long-term manner.

Keywords: ImageNet models

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