**Lung cancer detection using 3D Convolutional Neural Networks**

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**Extended Abstract:**

Lung cancer is considered one of the deadliest cancer ever. The early detection of lung cancer in humans is of significant importance due to its impacts on an individual. The detection of the lung cancer tumor at its early stage is also a challenging problem [1]. This paper approached a method that will detect the early stage of the lung nodules using deep convolution neural network. But detecting the lung cancer is not so easy. There would be various type of lung tissue samples. Classification is performed on image patch level using convolutional neural network (CNN) [2]. In this study, 3D CNNs will be used for the better performance than previously used 2D CNN. Other deep neural network has been black boxes giving user no clearing of why they detect or what they detect. But it will give the clear understanding about the lung nodules that is benign or malignant. In this, we will try to reduce the false positive reduction phase, which is the most critical part of the lung cancer detection system. One of the advantages of using 3D CNNs that provides the high sensitivity in detecting lung cancer [3] So, this study will be classified lung nodules, will be used for detecting early lung cancer, leading to improved chances of survival. The purpose of this approach is to help the people to overcome from such type of dangerous disease by detecting the early stage of the lung cancer.

**Keywords:** Lung cancer, 3D CNNs, Lung nodules, 2D CNNs.

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