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**COLLEGE OF ENGINEERING, KARVENAGAR, PUNE**

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**DEPARTMENT OF COMPUTER ENGINEERING**

A.Y. 2022-23 SEM-I

**BE PROJECT SYNOPSIS**

**Group ID: P34**

1. **Title of the project:** Lung Cancer Detection Using Deep Learning
2. **Domain of the Project:** Deep Learning.
3. **Keywords:** Healthcare, Prediction, Multi-classifier, Support Vector Machine, Computer Tomography, Lung Disease Diagnosis, Image Processing Techniques.
4. **Problem Definition:** To develop a model based on convolutional neural network (CNN), for the classification of lung cancer detection.

# Abstract:

Lung Cancer is one of the leading life taking cancer worldwide. Early detection and treatment are crucial for patient recovery. Medical professionals use histopathological images of biopsied tissue from potentially infected areas of lungs for diagnosis. Most of the time, the diagnosis regarding the types of lung cancer are error-prone and time- consuming. Convolutional Neural networks can identify and classify lung cancer types with greater accuracy in a shorter period, which is crucial for determining patients' right treatment procedure and their survival rate. Benign tissue, Adenocarcinoma, and squamous cell carcinoma are considered in this research work.

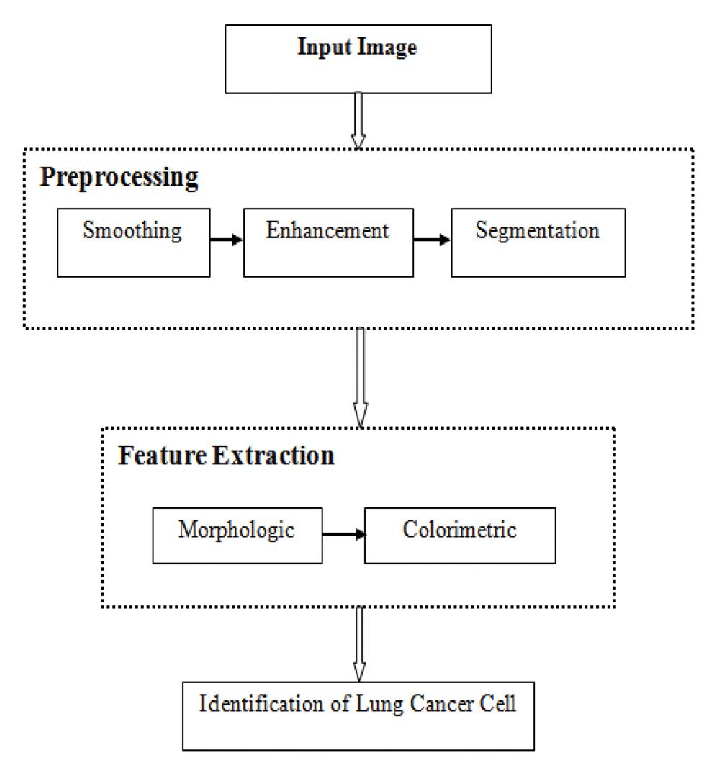
Through this research, a Computer-aided system introduced for detecting lung cancer in a dataset collected and by using a convolutional neural network technique for helping with the diagnosis of the patient's cases: normal, benign, or malignant.

# Scope of the Project:

This process reduces the time complexity and increases the diagnosis confidence. The collected data contain noise the noises are removed. And then segmentation of the lung images and after that the image is separated. The output image is trained by using the CNN model and the diagnosis is made from the output. .

We are trying to develop the automated medical image processing tools in which it detects the cancer cells in advance.

# System Architecture (Functional Diagram):

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1. **Software & Hardware Requirements:**

Software:

IDE- Visual-studio-code

Language – Python 3.8

Hardware:

Hard Disk: Greater than 500 GB RAM: Greater than 4 GB Processor: I3 and Above

# Expected Outcomes:

All the diseases will be getting predicted correctly.

# Team Members:

|  |  |  |  |
| --- | --- | --- | --- |
| **Roll No.** | **Name of Student** | **Mobile Number** | **Sign** |
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1. **Guide/Mentor Details:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Guide/Mentor** | **Name** | **Organization** | **Email-ID** | **Mobile No.** |
| Internal Guide | Ms. Smita Chaudhari | MMCOE |  |  |

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