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# Analysis of Different Machine Learning Algorithms Used for Identification of Lung Cancer Disease

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##### Abstract:

Cancer is a curable disease if its diagnosis is done in earlier stages. Study has concluded that the mortality rate is decreasing because of increasing in cancer disease. There are several types of cancer and in the recent survey of India and worldwide lung cancer was found to be second most dangerous disease that causes maximum deaths. Various studies were conducted in detecting cancer at earlier stages using Machine learning and Artificial intelligence so that we can cure the patients and save their lives to some extent. Various methods have been invented and applied by a combination of biomedical image processing method and knowledge Detection of Data. In this research work we have applied some machine learning algorithms on lung cancer disease dataset and have calculated accuracy, sensitivity, specificity, F1 score and Precision. The key idea of our research work is analysis of initial stage lung cancer by inspecting the performance of various machine learning algorithms. Here in our research work we have considered the Multinomial Nave Bayes, Logistic regression, Random forest, Ridge Classifier and SGD classifier on lung cancer data set.

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### I. Introduction

Human health is one of the important factors in economic development of any country. Cancer is basically a cluster of additional 100 diseases in which cells instigate to develop more out of control. Cancer is different from tumor. Cancer is a disease in which cells begin to divide uncontrollably whereas a tumor is mass of infected cells occurring in solid tissue i.e organs, bones etc. Among many one main causes for loss of human lives is cancer because this disease is hard to detect in early stages. Normally cancer is detected at the latter stages but if it is correctly detected, then we can cure it and chances of survival of **Smokers to Continue Smoking** individuals who smoke are supposed to be at more threat of having lung cancer though it may occur in people who have never smoked [6]. Other reasons that can cause cancer are over usage of tobacco, radon gases, air-pollutants and chemical in workplaces. Some signs or symptoms of lung cancer might contain, continuous cough, Coughing up blood, Smallness of inhalation [6], Chest pain, Throatiness, Trailing weight deprived of trying, Bone pain, Headache etc. To improve survival rate early detection of lung cancer is important and for that we can use the technology of machine learning.

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