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Advancing Lung Cancer Diagnosis and Prognosis Through Machine Learning Algorithm

Sovan Bhattacharya[1(✉)], Saibal Majumder[1], Soujatya Banerjee[1], Astom Mondal[1], Ranit Mondal[1], Dola Sinha[2], and Chandan Bandyopadhyay[1,3]

[1] Department of Computer Science and Engineering (Data Science), Dr. B.C. Roy Engineering College, Durgapur, India
sovan.cse@gmail.com

[2] Department of Electrical Engineering, Dr. B.C. Roy Engineering College, Durgapur, India
dola.sinha@bcrec.ac.in

[3] University of Bremen, Bremen, Germany

Abstract. Modern technology has made almost everything available at the touch of a button. But in our haste to stay up with these technological developments, our health frequently takes a back seat. The prevalence of numerous chronic diseases has increased as a result of this. Lung cancer is an example of a serious disease. Machine learning and similar approaches have been the subject of much discussion among researchers over their potential for accurate lung cancer prediction. We study machine learning algorithms with a particular focus on understanding how they handle different types of restrictions, such as changes in data quantity and test-train ratio. This research investigates the use of six different machine learning methods for predicting the occurrence of lung cancer: decision tree classifier (DTC), support vector machine classifier (SVMC), Naive Bayes classifier (NBC), logistic regression classifier (LRC), and random forest classifier (RFC).

Keywords: Datasets · Lung disease Prediction · Machine Learning · Clinical Data · Text tagging

1 Introduction

Modern technology has made almost everything available at the touch of a button. But in our haste to stay up with these technological developments, our health frequently takes a back seat. The prevalence of numerous chronic diseases has increased as a result of this. Lung cancer is an example of a serious disease. Machine learning and similar approaches have been the subject of much discussion among researchers over their potential for accurate lung cancer prediction. We study machine learning algorithms with a particular focus on understanding

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