Abstract

Credit Card Security and fraud is a major developing threat with many risk issues in the banking industries, corporations and major government organizations. From many fraudulent activities happening in the financial as well as banking industry, **credit card security and its fraudulent activities** are the most prevalent. It is necessary for the credit and debit card companies to be able to analyze the fraudulent transactions such that the users and the customers don't get charged for the transactions they did not make.
In this FOSSEE Project,the credit card security analysis is done using data analytics in R Studio in order to get proper regression and decision tree models. We will also be implementing machine learning in order to get a deeper knowledge about such activities.

Most of these activities occur due to the increase in both the online transactions as well E-commerce portals. Credit card scams mostly happen when the card was used or stolen for any of the unauthorized purchases or even when the Criminal uses the credit card details for his own purpose. In the current generation, we are facing various types of such problems and issues.In order to find the fraudulent transactions ,the credit card fraud security system was introduced.

Our project mainly aims to focus on various Machine Learning algorithms such as random forest algorithm and Adaboost algorithm. The models developed of the two algorithms are based on precision,accuracy,recall and also the F1-score.Based on the confusion matrix,the ROC curve is plotted.Finally,the Random Forest and the Adaboost algorithms are looked up and compared and the algorithm which has the highest accuracy, precision, recall, and F1-score is found to be the best method that can be used for the detection of the fraudulent activities.