ABSTRACT

This project mainly focuses on credit card fraud detection in the real world. A dataset consisting of transactions made by European credit card holders is taken. The motive is to find all the fraudulent transactions that have taken place. Inorder to find whether a transaction is fraudulent or not the model is trained from past credit card transactions that turned out to be fraud. The models that we have used are Decision Tree, Naive Bayes, Support Vector Machine and Random Forest. The result obtained would help the credit card companies to be more cautious while transactions happen thus by preventing the loss. The performance of the techniques is evaluated based on accuracy, sensitivity, and specificity, precision. Among all the algorithms Random Forest has performed better with an accuracy of 99.6%. Finally, all the algorithms are visually compared based on their performance.

LIST OF FIGURES

S.No.	Fig No.	Fig Name	Page No.
1.	1.2.1	Dataset	3
2.	1.2.3	Data Pre-Processing	5
3.	1.2.5.1	Confusion matrix of Random	9
		Forest Algorithm	
4.	1.2.5.2	Structure of Decision Tree	11
		Algorithm	
5.	1.2.5.3	Confusion matrix of Decision	12
		Tree Algorithm	
6.	1.2.5.4	Confusion matrix of Naive Bayes	14
		Algorithm	
7.	1.2.5.5	Confusion matrix of SVM	16
		Algorithm	
8.	1.2.5.6	Evaluation metrics for all	16
		algorithms	
9.	3.2	Architecture Diagram	23
10.	3.2.1	Data Flow Diagram Level 0	24
11.		Data Flow Diagram Level 1	25
12.		Data Flow Diagram Level 2	26
13.	3.3.1	Use Case Diagram	28
14.	3.3.2	Class Diagram	29
15.	3.3.3	Sequence Diagram	30
16.	3.3.4	Activity Diagram	31
17.	3.3.5	Collaboration Diagram	32
18.	4.2.1	Integration Test Case 1	43
19.	4.3.1	Input Screenshot 1	44
20.	4.3.2	Input Screenshot 2	44
21.	4.4.1	Output Screenshot 1	45

22.	4.4.2	Output Screenshot 2	45
23.	4.4.3	Accuracy of all algorithms	46