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Credit Card Fraudulent Detection Using Random Forest Algorithm in Data Mining

B. Sakthi Priya*
Assistant Professor, Department of Computer Science, Sacred Heart and Science College, Villupuram, India

***Abstract*: Credit card fraud pays most uncommon accepted issues in this credit card environment. The concept analysis is to distinguish the various kind of credit card falsification and to review the possible measures which can be consumed in fraud detection. It can be determined by different types of credit card frauds challenges faced by the financial related institutions such as banks, or other credit card manufacture industries, many of them apply different methodology to decrease the amount of frauds. The main purpose of using this approach is to reduce the credit card fraud. The algorithms used to detect the credit card fraud is Random Forest algorithm.**

***Keywords*: Algorithms, bank, credit card, consumed, fraud, falsification, fraud detection, financial, Random Forest algorithm, industries.**

1. Introduction

A credit card is the most convenient plastic card that contains individual data, for instance, a signature or picture of the account holder, unique card number and individual identification number or magnetic stripe or chip which contains data of the respective bank and it belongs to the individual person on it belongs to the individual person on it to charge purchases or administrate to his account. Today, the data on the card is accessed through Automatic Teller machine (ATM's), barcode can be scanned by the machine and it reads the information of the card.

The security of the credit card is depending on the plastic credit card 's essentials. The fast development of credit card usage may create a fraudulent society towards a country. It is due to unaware of the people about the security of the credit card, about its usage and their preventive measures during transferring money in online. Credit card fraud detection is the method to recognize the product purchased by the fraudulent instead of processing the fraudulent 's purchased order.

Credit card frauds occurs in many kinds to detect the details of the account holder bank balance and about their locations and easily fraudulent people theft the money from the credit card users. The main reason for fraudulent is to, we use online shopping to buy a product and pay using the net bank or any other modes available in the online, this system cannot be genuine because the seller authenticate the buyer 's account but they don't know that the transaction is made by the buyer. It helps the fraudulent people to trace the account information and about the balance of the particular account.

Credit card frauds can be determined by different types and n number of challenges faced by the financial related institutions such as banks, or other credit card manufacture industries, many of them apply different methodology to decrease the amount of frauds. We propose a novel method to detect the credit card fraud using 4 algorithms. The main purpose of using this approach is to reduce the credit card fraud. The algorithms used to detect the credit card fraud is Random Forest algorithm.

This paper consists of 4 sections, section 1 describes the types of frauds in the financial society, section 2 discusses about the proposed methodology, results in section 3 and concluded part in section 4.

2. Types of Fraud

In this paper, 4 types of frauds were explained, they are credit card fraud, Application fraud, traces of the credit card and card not exist fraud.

Credit card fraud can be committed using the payment card either in debit or credit card. The main goal of performing the fraudulent to get or transfer the amount from the various account of the account holder to the fraudulent account.

Application fraud is the person gives the name to apply a product but give false data about the counterfeit documents in the Application or the software related to payment/ shopping site.

The traces of the credit card fraud are the person's credit card can be impressed in the other card to put the card 's data saved as the file.

Card–not exist (CNP) fraud is defined as the unauthorized /unauthenticated person use the payment card when the time of transaction but the cardholder does not physically present.

3. Proposed Methodology

The gateway of the payment is a safe platform; it can be used to authenticate the account holder 's information that is verified before the transaction. The first stage of the transaction is to authenticate the account holder's information with the help of customer transaction database and find if the transaction is fraudulent. The Fraud detection algorithm used to detect the credit card fraud is Random Forest algorithm.

*Corresponding author: suganthibalumsc@gmail.com

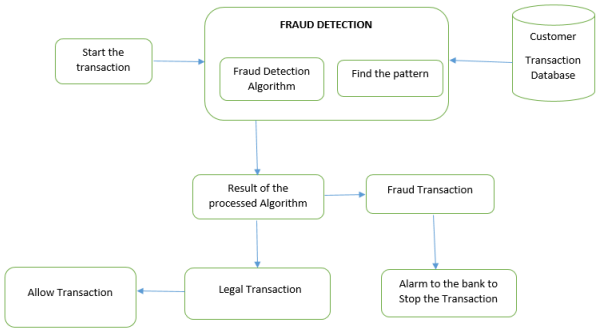

Fig. 1.

4. Random Forest Algorithm

Random forest algorithm is a powerful technique, used as supervised machine learning technique in Data Mining. It can be used in both the methods i.e., Classification and Regression. For Instance, In Email, we can differentiate the Spam and not spam mail using this “random forest algorithm”.

5. Conclusion

Credit Card Fraud Detection Algorithm describes about the fraudulent transaction from the account without the knowledge of the account Holder and also it explains about the different types of frauds. Using the Random Forest Algorithm, we can easily differentiate the fraudulent transaction and the legal transaction of the Account Holder and we can also stop the fraudulent transaction with the help of respective bank.

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