

A Survey - Fraud Detections on Credit Cards

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Abstract

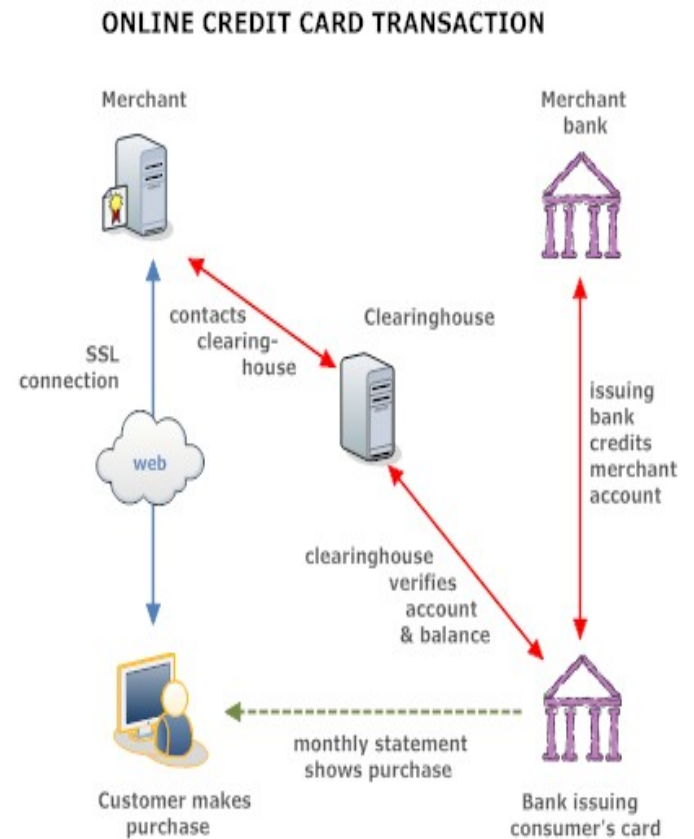
The overall goal of the data mining process is to extract information from a dataset and transform it in to an understandable structure for further use. On detecting fraud detection it is almost impossible to find who is at the other end, using des & 3-des algorithm it can be reduced the fraud transaction. This paper explains the methods to detect the fraud on credit cards and how to improve the transaction to detect the frauds.

Key words: Artificial intelligence, Fraud detection, Genetic algorithm, Hidden Markov Model (HMM).

1. Introduction

Credit card is a wide ranging term for theft and fraud committed using credit card or any similar payment mechanism as a fraudulent source of funds in transaction. Card fraud begins either with the theft of the physical card or with the compromise of the data associated with the account, including the card account number or other information that would routinely and necessarily be available to merchant legitimate on transaction. Credit card is the easiest way to purchase and the method offers credit to buyer. Fraud detection is usually the domain for E-Commerce and Data Mining. Detections based on the methods on discriminate analysis and regression analysis. Simple information is enough to the

attackers for doing deceptive transaction. By using HMM can be used to detect fraud on credit card easily.



2. Methodology

Where the fraud detection for credit card are confidential which is not freely disclose. Methods are used in here are rule-induction, decision trees, support vector machines (SVM), k- means clustering, genetic algorithm, nearest neighbor algorithms.

Using genetic algorithm we can get better result on credit card fraudulent transaction.

Techniques used in here are Hidden Markov model, which is to detect fraud transaction on credit cards. To detect the fraudulent these HMM create clusters of training set and find the card holder. Compare to other methods by using HMM model the detection rate is very low.

Using DES, 3-DES file transaction from client to server are encrypted and decrypted in any format, by using this other users cannot hack the details.

Table 1: Algorithms used in Fraud Detection.

Detection algorithms	Task
Genetic algorithm	Genetic algorithms are evolutionary algorithms. Genetic process is repeated until a termination condition been reached.
Hidden Markov Model	HMM related to mixture models, which create clusters of data and are to find the card holders.

3. Review of Literature

This section discusses about various fault detection on credit card transaction.

[1] “*Fraud Detection of Credit Card Payment System by Genetic Algorithm*”, Rama Kalyani K et al., the main work of this paper is by applying simple data and to obtain better solution by using genetic algorithm. Based on discriminate analysis and regression analysis method the solution is tested the data set in the database, if it is not matched to the database it detects the transaction. Demerits of this

paper work, for the large amount of data this process not work efficiently.

[2] “*An Effective Fraud Detection System Using Mining Technique*” Syed Ahsan Shabbir et al., this paper explains that by using genetic algorithm fraudulent of card and alerts the customer while transaction taken. Anti fraudulent strategies also be adopted and prevent great losses and reduces the risks. By implementing the genetic algorithm, whenever user login their page new mail ID and Password where sent to their own mail ID for every time, the user verify that and continue their transaction by this process the frauds on credit card transaction are avoided.

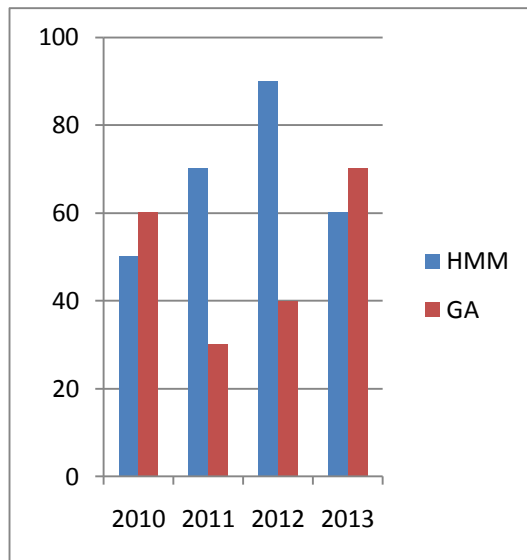
[3] “*An Effective Approach towards the Credit Card Fraudulence Disclosure Methods*” Anjaneyulu c et al.,. In this paper more than one algorithm is used. While using Neural Network, processing speed getting high. Also by using Artificial Neural Network and Bayesian Neural Network useful to detect intrusion network and cellular fraud. At last by using HMM detection rate are reduced compared to other model. By using the method of Fuzzy Darwinian, system detects the frauds 100% and gets good result.

[4] “*A Novel Approach for Credit Card Fraud Detection Targeting the Indian Market*” Jaba Suman Mishra et al.,. In this paper also used Hidden Markov Model to find fraud transaction, while on-transaction. By implementing the HMM model it create cluster for dataset and card holder information, it verify each and every time during the transaction taken whether the details of the card holder are matched or not. If it is not matched, transaction not to be taken.

[5] “*Credit and ATM Card Fraud Prevention Using Multiple Cryptographic Algorithm*” Pratiksha L. Meshram et al.,. This paper reviewed that DES and

3-DES algorithm to detect fraud and also use security before transaction by asking security question and more. By using cryptographic techniques multiple layers are verify the data by asking security questions, wrapping pin numbers to find whether the transaction is fraud are not.

Fig: survey of credit card fraudulent result



[6] “An Overview of Plastic Card Frauds and Solutions for Avoiding Fraudster Transaction” Jangam Upendar et al.,. This paper overviewed on credit card frauds identity, types of card fraud and ideas to detect and prevent card frauds. Paper explains the types of theft on card information and categories of payment card that are

- 1) Credit Card Application Fraud,
- 2) Account Takeover
- 3) Lost or Stolen Cards
- 4) Card-not-Received fraud
- 5) Counterfeit Cards
- 6) Card not Present Transaction.

4. Conclusion

Credit card fraud detection can be predicted by applying genetic algorithm. Within a sample data

set fraud transaction and detection are generated. Fraud occurred only after the transaction is completed. It reports the fraudulent transaction instantly by using the Hidden Markov Model. Paper focuses the implement on real dataset and evaluation for suspicious scorecard. By using Genetic algorithm anti-frauds also adopted, and are prevent from great loss on fraud detection. Artificial neural network and Bayesian networks which are to detect fraud on cellular and network intrusion. Fraud detection rate is very low in Hidden Markov model compare to other models. In future by using Genetic Algorithm, can detect the on-line frauds.

5. References

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