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CREDIT CARD FRAUD DETECTION STUDY USING DATA METHODS

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ABSTRACT

Data mining is the activity of extracting some useful knowledge from a large database using any of its methods. Due to a impetuous promotion in electronic commerce technology, in use from credit cards It has increased. As the credit card becomes the most popular payment method for both online and physical purchases, cases of credit card fraud are also on the rise. Data mining techniques can be used to detect credit card fraud. The main purpose of this article is to compare data mining methods such as simple K-means, hidden Markov model, Bayesian Net, KNN algorithm as well as ejection detection.

INTRODUCTION

Credit cards are in plastic cards published on financial companies and institutions such as banks. It's much easier carry payment cards instead of cash on the road. We can make online payments with credit cards. Credit use cards for online shopping has increased dramatically, and this called explosion in credit card fraud. Credit card fraud includes the illegal use of a card or Account Information without in knowledge from in owner. **Credit Card Fraud. Credit card fraud** is divided into two types: Offline fraud as well as Online fraud.

- *Offline fraud* is devoted to the idea on using _ a stolen physical card in call center or Any Another place.
- *Online fraud* is devoted to the idea by using the Internet, Telephone, shopping, net, or in absence from card holder.

CREDIT CARD FRAUD OPTIONS

There are myriad ways to carry outside credit card fraud, namely:

1) ***I WOULD theft*:** When an attacking receives in private victim information such as date of birth, gender, email address id, he can easily access the new account using details or even a step forward using existing Account. Identity theft accounts for 71% of the most common type of from fraud.

2) ***Fake cards*:** a card that not authorized or not issued financial institutions are called fake cards. Fake cards are developed by reading the actual data of a genuine card which the

was stole above an EDG car. This data is encoded from magnetic stripes and later used to create false cards.

3) ***stolen/lost cards*:** BUT scenario where a card holder accidentally lost his card or his card was stolen if cardholder fails to report it to in concerned bank there power to be chances what in card may be abuses a criminal.

4) ***CNP scam*:** Card scam rather than real scam is a type of scam. where the criminal needs the least information such as Card number and expiration date. AT such situation, map need No to be gift bye manufacturing in shopping online.

5) ***Clean fraud***: These fraud are No as clean as They sound. purchases are made With stolen cards as well as later transactions are changed, which allows finding a way around in FDS.

6) ***Friendly scam***: In a friendly scam, the actual cardholder makes purchases and pays for services using payment method by credit/debit card. Then reports a a complaint statement the loss from card as well as claims for reimbursement.

7) ***Affiliate Scam*:** This is the most common scam. anywhere a person enters a website and does purchases using a fake account or a program designed to carry outside fraud activities.

8) ***Triangular scam***: Such a scam basically involves 3 steps: (a) Creation a false Web site (b) Providing suggestions such as instant Delivery on the credit card payment Mode (With) Stolen or fake cards are used for payment. the name received in a real store is being misused criminal for later send the goods to the buyer. To detect and prevent various consequences of credit card fraud we offer a system using in concept from streaming analytics as well as HM to effectively prevent fraud. We train the system is initially turned on in previous operations in card holders.

CREDIT CARD FRAUD DETECTION METHODS

Data mining includes various methods as well as them characteristics what may be used to discover credit fraud.

- Hidden Markov Model
- neural Net
- Bayesian Net
- Genetic Algorithm
- TO- nearest neighbor algorithm
- Support Vector Car
- Solution Wood
- Fuzzy Logics Basic system

Hidden Markov Model: Hidden Markov Model (HMM) a statistical Markov model in which the in system Existence modeled as a Markov process with an unobservable (i.e. hidden) states. Hidden Markov model can to be presented as protozoan dynamic Bayesian net

Neural Network: A neural network is a system of hardware. and/or software modeled after neurons in human brain. Neural networks, also called artificial neural networks -- are a variety deep education technology.

Genetic Algorithm: The genetic algorithm (GA) is a search a heuristic that mimics the process of natural evolution. This heuristics are commonly used to generate useful solutions optimization as well as Search Problems.

Algorithm K -nearest neighbor: K nearest neigh bors simple algorithm that stores all available cases and classifies new cases based on the a resemblance measure (for example, distance functions). **KNN** used in statistical evaluation and sample confession.

Support Vector Car: in the car training, support vector machines (SVM, also support vector networks [1]) are under surveillance learning models With connected education algorithms who analyze the data used for classification and regression analysis. Support Vector The machines are based on the concept of decision planes, which define solution borders.

Decision tree. A decision tree is a structure that includes root node, branches, as well as sheet nodes. Each interior knot stands for a test on the en attribute, each branch off stands for in test result, and each the end node contains the class label. The topmost node in the tree is the root node. This is one of predictive modeling approaches used n statistics, data booty as well as car education.

Fuzzy Logics Based on System: Fuzzy logics deals With reasoning that is approximate rather than fixed and precise. AT difference from the traditional theory of logic, where binary sets have two-valued logic, true or false, fuzzy logic variables can have a truth value that ranges from 0 to 1. fuzzy logic It has was extended handle in concept from partial truth, where in truth value May range between fully true as well as fully FALSE.

LITERATURE REVIEW

In 2016 Maria R. Lepoivre et al. **"Credit card Fraud Detection With Unattended Algorithms"**. a task this article is to develop an anti-fraud project using a combination of two unsupervised algorithms. They are using classification per to generate a package. then each The package will be grouped using the concept of clustering. model It has was applied to manually implemented data containing on the a lot of bank Accounts. THX, The unsupervised classification scheme SIMPLEKMEANS has used to classify transactions. It directly classifies transactions with good accuracy and it can detect new fraudulent behavior.

At in year from 2016 U. Rajeshwari as well as Dr. B. Satish Babu **in real time credit card fraud detection using streaming analytics.** In this article, they use Streaming Analytics to discover credit card fraud. The main goal is to detect and prevent in credit card fraud per offline _ as well as online payments. Stream analytics method is used to prevent fraud and also reduces in FALSE anxiety evaluate. evaluate from FALSE anxiety is reduced on the study in attitude between in transactions. Finally we mean to discover as well as prevent in fraudulent deal bye it is taking place, after what deal will to be interrupted as well as in card owner will to be warned if in deal is verified as fraudulent.

At in year from 2017, B. Pushpalata as well as K. Wilson Joseph " **Credit Card Fraud Discovery based on the in Deal on Using Data Mining Techniques** » The main goal of this research work is to predict and detect credit card fraud. In this article, they compare many of the in algorithm how Bayesian Network, Bayesian minimum Risk, Genetic Algorithm, Hidden Markov Model as well as Ontology per detection in fraud. These algorithms are compared for performance. Hidden Markov Model as well as Ontology gives better performance With in accuracy 98.09% as well as 99.6%.

In 2017, N.Malini and Dr. M.Pushpa " **Analysis Credit card fraud detection methods based on KNN and outlier detection** » The main purpose of this Research work is to identify fraud with bank credit cards. In that paper They compare several technology how Car education, Genetic Programming, fuzzy logics, subsequence alignment, ETC per detection credit card fraudulent transactions. Along with these methods, the KNN algorithm and outlier detection methods are implemented to optimize in Best solution per in fraud detection problem. These Approaches have been proven to minimize false alarm rates and increase in fraud detection evaluate.

CONCLUSION

Our goal is to analyze various methods of data mining in the way they help us detect and predict a credit card fraud. Analysis presented by various research shows what another data booty methods. Together With these tricks "Hidden Markov model. optimize best solution per in fraud detection.

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