**REAL TIME CREDIT CARD FRAUD DETECTION USING MACHINE LEARNING**

**ABSTRACT:**

The credit card fraud is mostly come in financial services. The credit card fraud is generated huge number of problems in every year. Lack of research on this credit card problem and submits the real-world credit card fraud analyzes, that is issues. In this paper is introduced best data mining algorithm called “machine learning algorithm”, which is utilized to recognize the credit card fraud, so initially use this algorithm and it is one of the standard model. Then, secondly apply the hybrid methods namely, “AdaBoost and majority vote method”. Use this model efficacy, which is evaluated, and then use the credit card data set it is publicly available one. The financial institution included true world data set, so it is taking and analyzed. In this robustness algorithm additionally evaluate the noise added data samples. This concept is used in experiment and then produce the result positively indicate the hybrid method, that is majority voting, it provides good accuracy rates in credit card fraud detection

**Existing system :**

A credit card fraud detection system was proposed in [8], which consisted of a rule-based filter, Dumpster–Shafer adder, transaction history database, and Bayesian learner. The Dempster–Shafer theory combined various evidential information and created an initial belief, which was used to classify a transaction as normal, suspicious, or abnormal. If a transaction was suspicious, the belief was further evaluated using transaction history from Bayesian learning [8]. Simulation results indicated a 98% true positive rate [8]. A modified Fisher Discriminant function was used for credit card fraud detection in [9]. The modification made the traditional functions to become more sensitive to important instances. A weighted average was utilized to calculate variances, which allowed learning of profitable transactions. The results from the modified function confirm it can eventuate more profit [9].

Association rules are utilized for extracting behavior patterns for credit card fraud cases in [10]. The data set focused on retail companies in Chile. Data samples were defuzzified and processed using the Fuzzy Query 2+ data mining tool [10]. The resulting output reduced excessive number of rules, which simplified the task of fraud analysts [10]. To improve the detection of credit card fraud cases, a solution was proposed in [11]. A data set from a Turkish bank was used. Each transaction was rated as fraudulent or otherwise. The misclassification rates were reduced by using the Genetic Algorithm (GA) and scatter search. The proposed method doubled the performance, as compared with previous results [11].

**Problem statement**

There is no Majority Voting technique for credit card fraud detection.

There is no Machine Learning Techniques in the existing system.

**PROPOSED SYSTEM**

In the proposed system, a total of twelve machine learning algorithms are used for detecting credit card fraud. The algorithms range from standard neural networks to deep learning models. They are evaluated using both benchmark and real world credit card data sets. In addition, the AdaBoost and majority voting methods are applied for forming hybrid models. To further evaluate the robustness and reliability of the models, noise is added to the real-world data set.

The key contribution of this paper is the evaluation of a variety of machine learning models with a real-world credit card data set for fraud detection. While other researchers have used various methods on publicly available data sets, the data set used in this paper is extracted from actual credit card transaction information over three months.