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ABSTRACT :-

Credit card frauds are easy and friendly targets. E-commerce and many other online sites have increased the online payment modes, increasing the risk for online frauds. Increase in fraud rates, researchers started using different machine learning methods to detect and analyze frauds in online transactions. The main aim of the project is to design and develop a novel fraud detection method for Streaming Transaction Data, with an objective, to analyze the past transaction details of the customers and extract the behavioural patterns. Where cardholders are clustered into different groups based on their transaction amount. Then using sliding window strategy, to aggregate the transaction made by the cardholders from different groups so that the behavioural pattern of the groups can be extracted respectively. Later different classifiers are trained over the groups separately. And then the classifier with better rating score can be chosen to be one of the best methods to predict frauds.

Our credit card fraud detection project employs machine learning algorithms to identify and prevent fraudulent transactions swiftly, safeguarding financial assets to identify and prevent fraudulent transactions, enhancing financial security, protecting users from unauthorized charges, safeguarding customer's financial security, minimizing potential losses and ensuring secure transactions for users.

Financial threats are displaying a trend about the credit risk of commercial banks as the incredible improvement in the financial industry has arisen. In this way, one of the biggest threats faces by commercial banks is the risk prediction of credit clients. The goal is to predict the probability of credit fault based on credit card owner's characteristics and payment history.

The project utilizes a comprehensive dataset comprising legitimate and fraudulent credit card transactions. The dataset is diverse, encompassing various transaction types, amounts, and timeframes.