

Fraud Detection in Credit Cards with Machine Learning

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Abstract : Online transactions have increased dramatically in this new 'social-distancing' era. With online transactions, Fraud in online payments has also increased significantly. Frauds are a significant problem in various industries like insurance companies, baking, etc. These frauds include leaking sensitive information related to the credit card, which can be easily misused. Due to the government also pushing online transactions, E-commerce is on a boom. But due to increasing frauds in online payments, these E-commerce industries are suffering a great loss of trust from their customers. These companies are finding credit card fraud to be a big problem. People have started using online payment options and thus are becoming easy targets of credit card fraud. In this research paper, we will be discussing machine learning algorithms. We have used a decision tree, XGBOOST, k-nearest neighbour, logistic-regression, random forest, and SVM on a dataset in which there are transactions done online mode using credit cards. We will test all these algorithms for detecting fraud cases using the confusion matrix, F1 score, and calculating the accuracy score for each model to identify which algorithm can be used in detecting frauds.

Keywords : machine learning, fraud detection, artificial intelligence, decision tree, k nearest neighbour, random forest, XGBOOST, logistic regression, support vector machine

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