HACKATHON: CYBERSECURITY IN BANKING AND FINANCE

Fraud Detection in Credit Cards

Team Members :

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Statement:

Strengthening Cybersecurity in Banking and Finance Through AI-Enhanced Anomaly and Threat Detection.

Introduction :

Cybersecurity is a paramount concern for the banking and finance sector in the digital age. As cyber threats continue to evolve in sophistication and frequency, traditional security measures are proving inadequate. This paper explores the potential of Artificial Intelligence (AI) in bolstering cybersecurity defenses through advanced anomaly and threat detection techniques. By leveraging AI algorithms, machine learning models, and data analytics, financial institutions can proactively identify and mitigate cyber threats, safeguarding sensitive information, and ensuring the integrity of financial transactions.

This model aims to implement a robust machine learning algorithm that can efficiently Fraud detection in credit cards.

Data collection and processing

Data collection is the process of gathering and measuring information from countless different sources. It is the primary step for any machine learning problem. We have used a dataset from Kaggle for this problem.

Data Analysis

Data analysis refers to the process of inspecting, cleaning, transforming, and interpreting data to discover valuable insights, draw conclusions, and support decision-making.

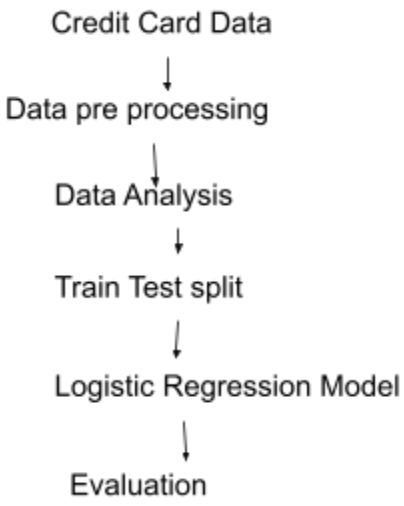
Model selection

Model selection is the process of selecting one final machine learning model from among a collection of candidate machine learning models for a training dataset. After gathering and cleaning the data, the data is ready and can be used to train a machine learning model. We have used this cleaned data to train all classification models , then calculated accuracy & concluded the model which has highest accuracy Which came out to be Logistic Regression model.

Logistic Regression Model

- Logistic regression is one of the most popular Machine Learning algorithms, which comes under the Supervised Learning technique. It is used for predicting the categorical dependent variable using a given set of independent variables.
- Logistic regression predicts the output of a categorical dependent variable. Therefore the outcome must be a categorical or discrete value. It can be either Yes or No, 0 or 1, true or False, etc. but instead of giving the exact value as 0 and 1, **it gives the probabilistic values which lie between 0 and 1**.
- **Logistic regression is used for solving the classification problems**.

Workflow :



Conclusion :

As the accuracy of the Logistic Regression Model is greater than other models hence it will be best for credit card fraud detection.
We have Successfully implemented a decision model using the Logistic Regression algorithm. Thus, this ML model helps the bank managers to predict the fraud with more accuracy and reduces the cost of testing.