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**Online Payment Fraud Detection Project**

**Problem Statement**

The goal of this project is to identify fraudulent online payment transactions by analyzing various transaction attributes. By analyzing past transaction patterns, this project aims to create a model that can accurately classify transactions as fraudulent or non-fraudulent.

#### ****Source of the Dataset****

The dataset is sourced from Kaggle. This dataset contains data representing online transactions, including information on transaction type, amounts, account balances, and fraud labels.

#### ****Brief Description of the Dataset****

This dataset contains 6.3 Million records of online financial transactions with information on transaction amounts, origin and destination balances, and a classification indicating whether the transaction is fraudulent. The dataset is imbalanced, as seen in the distribution of the target variable, with only a small percentage of transactions classified as fraudulent.

**Description of the Attributes**

1. **step**: Integer representing the time step in hours from the start of the observation period. Each unique value represents an hour in a chronological order. (dataType: Integer)
2. **type**: Categorical variable indicating the type of transaction, e.g., 'PAYMENT', 'TRANSFER', 'CASH\_OUT'. This variable was label-encoded for modeling purposes. (dataType:Categorical)
3. **amount**: The monetary value of the transaction. This is a continuous variable and provides insights into the transaction's value, which can be a key factor in detecting fraud. (dataType: Float)
4. **oldbalanceOrg**: The initial balance of the origin account before the transaction. (dataType: Float)
5. **newbalanceOrig**: The balance of the origin account after the transaction has been executed. (dataType: Float)
6. **oldbalanceDest**: The initial balance of the destination account before the transaction.
7. **newbalanceDest**: The balance of the destination account after the transaction. (dataType: Float)
8. **isFraud**: Target variable indicating if the transaction is fraudulent (1) or not (0). This is the primary variable of interest for predictive modeling. (dataType: Integer)