FINANCIAL FRAUD DETECTION USING VALUE RISK WITH MACHINE LEARNING IN SKEWED DATA

ABSTRACT

Problem Statement: Fraud is a widespread issue affecting both public and private sectors, including government, profit, and non-profit organizations. Its scale is difficult to predict due to its often undetected nature. Detecting financial fraud is crucial to protect the finances of companies and taxpayers.

Objective: The aim is to develop a data mining model that helps organizations analyze financial transactions and detect fraud at an early stage.

Methodology:

- The system uses machine learning algorithms to predict fraud or non-fraud transactions.
- The process begins by selecting and preparing a dataset for analysis.
- The dataset is split into training and test data for model validation.

Model Training:

- The model is trained with both fraudulent and non-fraudulent data to ensure accurate classification.
- Machine learning algorithms are used to classify transactions as fraud or non-fraud.

Evaluation Metrics:

- The system's performance is measured using metrics like accuracy, precision, recall, and F1-score, which help assess how well the model predicts fraud.

Results:

- The results indicate that the developed system can accurately predict the likelihood of fraud in most cases.

Conclusion:

- This fraud detection system is a simple yet effective tool that can help prevent financial fraud and save significant resources.