Credit Card Fraud Detection using Machine Learning Algorithms

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Introduction

- Credit card fraud is becoming a significant threat, causing financial harm to many. Traditional methods struggle to keep up with evolving fraud tactics. By using advanced machine learning, this study aims to build better systems to detect fraud quickly. These systems are crucial for protecting people's money and reducing the impact of fraud on the economy.
- While Credit card fraud is pervasive and traditional methods are insufficient, the machine learning models that we develop offers promise. There are some uncertainties regarding optimal algorithms, scalability, and effectiveness of advanced technologies. Further research is needed to refine models, improve performance, and mitigate financial losses.
- We explore the influence of different future engineering techniques and preprocessing models on model effectiveness, and assess the performance of models like Logistic Regression, Decision Tree, and Random Forests in accurately identifying fraudulent transactions.
- Our hypothesis is that machine learning algorithms can accurately detect credit card fraud. We aim to optimize techniques to enhance model efficiency and provide insights into effective fraud detection strategies.