Online Payment Fraud Detection Using Machine Learning Techniques

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Abstract*: Online payment systems have revolutionized global commerce, but they have also increased exposure to fraudulent activities. This research paper presents a comprehensive approach to identifying fraudulent transactions using machine learning techniques. The proposed models are evaluated on a publicly available dataset from Kaggle, where historical transactional data is used for training and testing. Among the models tested, the Random Forest classifier achieved the best performance, with an F1-score of 0.95. This paper also addresses the challenge of class imbalance and highlights the importance of precision in minimizing false positives in fraud detection systems.*

Keywords: Online Payments, Fraud Detection, Machine Learning, Random Forest, Class Imbalance