A Project Abstract

on

A MULTI PERSPECTIVE FRAUD DETECTION METHOD FOR MULTI PARTICIPANT E COMMERCE TRANSACTIONS

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ABSTRACT

In the realm of e-commerce, where transactions involve multiple participants such as buyers, sellers, and intermediaries, detecting fraudulent activities is a significant challenge. To address this issue, our proposed method adopts a multi-perspective approach to enhance the accuracy and efficiency of fraud detection. The process begins with the detection of user behaviors, leveraging techniques such as behavioral analysis and transaction history examination to understand normal user interaction patterns within the e-commerce ecosystem. By establishing a baseline of typical user behaviors, deviations and abnormal patterns can be identified effectively, forming the foundation for fraud detection. This comprehensive understanding enables the system to differentiate between genuine and suspicious activities with higher precision.

Utilizing sophisticated anomaly detection algorithms, we scrutinize transaction data to uncover irregular patterns indicative of potentially fraudulent activities. This process allows us to extract important features that serve as key indicators for fraud detection. Finally, we employ an ensemble classification model to implement our fraud detection mechanism, avoiding reliance on a specific algorithm. Instead, we leverage the strengths of ensemble algorithms, such as SVM and hybrid algorithms. By feeding the extracted features into the ensemble model, we train it to discern between legitimate and fraudulent behaviors in multiparticipant e-commerce transactions. Ensemble methods are particularly well-suited for this task due to their ability to handle high-dimensional data and capture complex decision boundaries through combination of diverse base models.

Keywords: *Multiparticipant E-commerce Transactions, Fraud Detection, User Behaviors, Abnormalities Analysis, Ensemble Classification Model, Support Vector Machine (SVM).*

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