ABSTRACT

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IMPLEMENTATION OF ISOLATION FOREST IN TETHER (USDT) CRYPTOCURRENCY TRANSACTION ANOMALY DETECTION.

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(x + 47 + Appendix)

This research aims to implement the Isolation Forest algorithm to detect anomalies in Tether (USDT) cryptocurrency transaction data. Cryptocurrency, as an innovation revolutionizing the financial sector in the digital era, offers a new alternative in investment and transactions with decentralized and transparent characteristics. However, with the increasing use of cryptocurrency, the risk of anomalies in transactions, such as fraud, insider trading, or market manipulation, has become a significant concern that requires effective detection methods. The Isolation Forest algorithm was selected due to its ability to identify anomalies by isolating data points that deviate from common patterns in large datasets. This research involves applying the algorithm to Tether (USDT) transaction data and evaluating the detection results based on varying contamination parameters, which estimate the proportion of anomalies in the dataset. The implementation process includes data preprocessing, model application, and anomaly detection analysis. The results indicate that the Isolation Forest algorithm effectively detects anomalies in Tether (USDT) transaction data. The success rate of anomaly detection depends on the contamination parameter values used, which influence the model's sensitivity to anomalies. This research is expected to contribute to the development of better analytical tools in the context of monitoring and securing cryptocurrency transactions, thereby supporting efforts to maintain the integrity of digital markets and protect economic actors from undesired risks.

Bibliography (2008 - 2024)