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(54) Title of the invention : A SYSTEM AND METHOD FOR AI-BASED REAL-TIME FRAUD DETECTION AND RISK MITIGATION IN DIGITAL TRANSACTIONS USING ADAPTIVE BEHAVIORAL ANALYTICS AND MULTI-LAYERED INTELLIGENCE

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(57) Abstract :

The present invention relates to a system and method for AI-based real-time fraud detection and prevention in digital transactions using adaptive behavioral analytics and a multi-layered intelligence framework. The system integrates data ingestion, preprocessing, behavioral profiling, anomaly detection, risk scoring, and decision-making modules to identify and mitigate fraudulent activities with high accuracy and low latency. It employs hybrid machine learning models to analyze transaction patterns and detect anomalies based on dynamic user behavior profiles, while an explainable artificial intelligence layer provides transparency in decision-making. The invention further incorporates a continuous learning mechanism for model optimization and supports cross-platform intelligence sharing for enhanced detection of coordinated fraud. The proposed system improves security, reduces false positives, ensures regulatory compliance, and provides a scalable solution for modern digital financial ecosystems. Accompanied Drawing [FIGS. 1-2]

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