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Leveraging AI and Machine Learning for Fraud Prevention in Modern Financial Systems

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Abstract: *Fraud prevention remains a critical challenge in the financial industry, especially with the rise of digital transactions. In recent years, Artificial Intelligence (AI) and Machine Learning (ML) have shown significant promise in combating fraud in financial systems. This article explores the practical applications of AI and ML in fraud detection and prevention, examining the latest technologies and methodologies available in 2021. It delves into techniques such as anomaly detection, supervised and unsupervised learning, and deep learning models, and their integration into financial systems to enhance security and efficiency. The article also discusses the challenges and ethical considerations involved in deploying these technologies in the financial sector.*

Keywords: Digital Transactions, Fraud Prevention, Financial Industry, Financial Institutions, Fraudulent Activities, Traditional Fraud Detection Systems, Rule-based Systems, Artificial Intelligence (AI), Machine Learning (ML), Fraud Detection, Anomaly Detection, Supervised Learning, Unsupervised Learning, Data Patterns, Real-time Processing, Data Security, Fraud Detection Systems, AI and ML Integration, Data Quality, Fraud Prevention Technologies

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