Enhancing Big Data Threat Detection through Blockchain

Rekha Yadav
Department of Computer Science & Engineering, Swami Vivekanand College of Engineering, Indore, Madhya Pradesh, India

Abstract

The complexity and scope of cybersecurity threats have greatly expanded due to the quick expansion of big data environments. Single points of failure, a lack of transparency, and slow response times are just a few of the problems that traditional centralized threat detection systems frequently face. With its decentralized, transparent, and unchangeable features, blockchain technology offers a potential answer to these problems. A blockchain-enabled methodology for improving threat detection in big data ecosystems is presented in this study. The suggested method guarantees the safe exchange of threat intelligence, enhances data integrity, and permits real-time cooperative detection among dispersed nodes. According to experimental analysis, using blockchain technology with big data analytics reduces false positives while increasing detection accuracy, reliability, and system resilience.

Keywords

Big Data Security, Blockchain, Cyber Threat Detection, Distributed Systems, Data Integrity.