

The Data Sentinel: Redefining Cybersecurity in the Big Data Epoch

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Abstract: *In the current digital landscape, data has emerged as the new oil—fueling innovation, governance, healthcare, and nearly every aspect of modern life. However, the exponential growth of data has also led to increasingly complex cybersecurity threats. Traditional security systems, built for static and limited data environments, are now overwhelmed by the dynamic, decentralized, and high-velocity nature of big data. This paper introduces the concept of the "Data Sentinel"—an advanced cybersecurity framework designed specifically to meet the unique challenges posed by the big data epoch. By leveraging artificial intelligence (AI), blockchain, real-time analytics, and behavioral insights, the Data Sentinel provides an adaptive, proactive, and intelligent defense mechanism against modern cyber threats. The study explores the technological foundation, applications across various sectors, and the potential challenges of implementing such a system.*

Keywords: Big Data, Cybersecurity, Data Sentinel, Artificial Intelligence, Real-time Analytics, Threat Detection

