

AI-Powered Autonomous Threat Analytics for Secure Digital Infrastructures

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Abstract: *With the growing dependence on IT infrastructures, cloud platforms, and IoT devices, modern organizations face increasingly sophisticated cyber threats, including ransomware, phishing, and advanced persistent threats (APTs). Protecting these digital systems is critical, as conventional security measures often fail to detect and mitigate emerging attacks in real time. This research investigates AI-powered autonomous threat analytics as a proactive solution for enhancing cybersecurity. A descriptive and exploratory approach is employed, combining literature review, case studies, and quantitative evaluation of detection accuracy, response time, and efficiency using simulations and secondary datasets. The findings demonstrate that AI-driven autonomous systems can improve threat detection, reduce response delays, and enhance the resilience of digital infrastructures.*

Keywords: AI-powered security, Autonomous threat analytics, Cybersecurity, Digital infrastructure.

