

AI Shield Pro+: An AI-Driven Real-Time Cyber Threat Detection and Intelligent Monitoring Framework Using Machine Learning

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Abstract

The rapid growth of digital platforms has increased cyber threats such as phishing, malware, fraud, and malicious content sharing. Traditional cybersecurity systems often lack intelligent real-time monitoring and effective threat analysis capabilities. To address these challenges, this paper presents AIShield Pro+, an AI-driven cyber threat detection and monitoring framework designed for real-time cybersecurity analysis. The proposed system analyzes suspicious prompts, harmful text, and uploaded files using keyword-based threat analysis, suspicious pattern detection, and threat severity classification techniques. The framework dynamically updates monitoring statistics, threat logs, and analytics dashboards to improve cybersecurity awareness and visualization. AIShield Pro+ is implemented using Python and Flask for backend development, while HTML, CSS, and JavaScript are used for frontend interface design. SQLite is integrated for secure authentication and data handling, and graphical analytics are used for monitoring and visualization.

The framework also provides intelligent security recommendations and real-time monitoring support for detecting suspicious activities. Experimental results show that the proposed framework effectively identifies safe and malicious activities while maintaining a lightweight, scalable, and user-friendly architecture suitable for educational and cybersecurity monitoring applications.

Keywords

Artificial Intelligence, Cybersecurity, Threat Detection, Machine Learning, Intelligent Monitoring, Threat Analytics, Security Dashboard.