

## Emerging Threats and Adaptive Defenses: Navigating the Future of Cybersecurity in a Hyperconnected World

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**Abstract :** In a hyperconnected world, cybersecurity faces a continuous evolution of threats that challenge traditional defence mechanisms. This paper explores emerging cybersecurity threats like malware, ransomware, phishing, social engineering, and the Internet of Things (IoT) vulnerabilities. It delves into the inadequacies of existing cybersecurity defences in addressing these evolving risks and advocates for adaptive defence mechanisms that leverage AI, machine learning, and zero-trust architectures. The paper proposes collaborative approaches, including public-private partnerships and information sharing, as essential to building a robust defence strategy to address future cyber threats. The need for continuous monitoring, real-time incident response, and adaptive resilience strategies is highlighted to fortify digital infrastructures in the face of escalating global cyber risks.

**Keywords :** cybersecurity, hyperconnectivity, malware, adaptive defences, zero-trust architecture, internet of things vulnerabilities

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