

## CURRENT THREATS TO CYBER SECURITY: STRATEGIES FOR PROTECTING PERSONAL DATA IN THE DIGITAL AGE

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### Abstract

The development of digital technology has brought convenience to various aspects of life, but on the other hand, it has also given rise to increasingly complex cyber security threats. Personal data is now a prime target for attacks because it has high economic value and can be exploited for illegal purposes. The latest threats include phishing, malware, ransomware, data leaks, attacks on Internet of Things devices, and digital manipulation using *deepfake* technology. The complexity of these threats not only harms individuals, but also impacts organisational security, social stability, and public trust in the digital ecosystem. Therefore, personal data protection strategies are crucial in facing the ever-evolving dynamics of cyber attacks. Effective strategies for protecting personal data include the use of two-factor authentication, data encryption, regular system updates, and the use of artificial intelligence for early threat detection. In addition, improving public digital literacy plays a central role in preventing social manipulation, while legal regulations such as the Personal Data Protection Act are an important foundation for upholding individual privacy rights. With a combination of technology, regulation, and digital awareness, personal data security can be strengthened so that the risk of cyber threats can be minimised. This study provides a comprehensive overview of current threats and offers adaptive mitigation strategies in the digital age.

**Keywords:** Cyber security, digital threats, personal data, privacy protection, encryption, digital literacy, Personal Data Protection Act.

### Introduction

The development of digital technology in the 21st century has brought about major transformations in various aspects of human life, including social, economic, educational, and governmental fields. Daily activities that were previously done manually can now be easily accessed through digital devices connected to the internet (Diskominfo Sukoharjo, 2025) . Banking services, e-commerce transactions, communication, public administration, and even health services are now increasingly digitised and provide high efficiency for the community. However, behind these benefits, the digital era also presents a new vulnerability, namely the threat of cyber security that is increasingly complex, diverse, and difficult to detect early on (P .

Cyber security has become a strategic issue that is not only technical in nature, but also involves social, economic, political, and even geopolitical aspects. Various global reports show a significant increase in cyber attacks, such as data theft, malware attacks, and even digital identity theft (F. Rafiq, 2022) . This increase not only affects