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## Phishing Website Detection Using Random Forest Algorithm

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Abstract: The Internet has become an integral part of everyday life, but it has also paved the way for cybercriminal activities such as hacking. Phishers employ social engineering tactics and fraudulent websites to deceive users and steal sensitive information, including account credentials, usernames, and passwords from both individuals and organizations. Phishing is a form of online identity theft where attackers manipulate users into revealing confidential data by leveraging website spoofing and psychological manipulation. This stolen data is often used for illicit financial transactions, such as unauthorized online banking activities or fraudulent purchases.

The Internet serves as a crucial communication tool for people worldwide, but it has also become a medium for cybercriminals to exploit personal information with minimal risk of detection. Phishing, a deceptive practice, poses a major threat to the e-commerce industry by eroding consumer confidence in online shopping and causing financial losses to service providers. Therefore, a deeper understanding of phishing mechanisms is essential. Despite the introduction of various methods to detect phishing websites, cybercriminals continuously refine their techniques to bypass these defenses. Machine learning has emerged as a powerful approach for identifying such malicious activities, as phishing attacks often exhibit recurring patterns that can be analyzed effectively.

Keywords: Phishing, Classification, Machine Learning, Cybersecurity, Fraud Detection

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