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Ransomware Detection using Machine Learning

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Abstract: *Ransomware attacks represent a growing cybersecurity threat, affecting individuals and organizations by compromising data integrity, causing financial losses, and damaging reputations. Early and accurate detection of ransomware is essential to mitigate these risks. This study provides a comprehensive review of modern ransomware detection methods, examining various approaches and highlighting their advantages and limitations. The research covers techniques for detecting, preventing, and recovering from ransomware, based on an analysis of studies published between 2017 and 2022. The goal is to present the latest trends in automated ransomware detection and offer insights into future research challenges. Additionally, this study discusses the potential for improving ransomware detection using machine learning and other advanced techniques. The work concludes with a focus on unresolved issues in ransomware detection, encouraging further investigation.*

Keywords: Automated detection, Cybersecurity, Data security, Future research challenges, Machine learning, Prevention techniques, Ransomware detection

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