

# Detecting Phishing Attacks Using Machine Learning Algorithms: SVM, Naive Bayes, and Random Forest

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**Abstract:** *Phishing attacks have emerged as a prevalent and serious cyber threat, taking advantage of human weaknesses to obtain sensitive information like passwords and financial details. Early detection of phishing attempts can help avert serious repercussions, including identity theft and financial loss. Machine learning (ML) techniques have demonstrated considerable potential in automating the identification of phishing websites, utilizing data-driven insights to categorize URLs or website characteristics as either malicious or safe. This paper assesses the performance of three widely used machine learning algorithms for phishing detection: Support Vector Machine (SVM), Naive Bayes (NB), and Random Forest (RF). We offer a thorough comparison of these algorithms based on their accuracy, precision, recall, and F1-score, utilizing a publicly available phishing dataset..*

**Keywords:** Phishing attacks

