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Study: morning

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Web vulnerability detection tool by machine learning

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Abstract

Cybersecurity threats are constantly evolving, with malicious websites posing a significant risk to users. Hackers are currently focusing their efforts on attacking end-to-end technologies. Social engineering, phishing, and pharming are examples of these approaches. Our work presents web vulnerability detection tool based on a machine learning, designed to identify and classify potentially harmful websites. The tool leverages a user-friendly graphical user interface (GUI) for ease of use, allowing users to enter website URLs and receive predictions about their safety. As such, this study aims to use a machine learning techniques to detect malicious website URLs based on the dataset called the malicious phish dataset. Behind the scenes, we use a Random Forest classifier as a machine learning model, likely, analyzes features extracted from URLs to categorize them as malicious (phishing, malware, defacement) or benign. The results indicate that the proposed Random Forest classifier offers the best performance, with an accuracy of 92.2%.