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Detection of Phishing Websites using Machine

Learning

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Abstract: Phishing attacks are a rapidly expanding threat in the cyber world, costing internet users billions of dollars each year. It is a criminal crime that involves the use of a variety of social engineering tactics to obtain sensitive information from users. Phishing techniques can be detected using a variety of types of communication, including email, instant chats, pop-up messages, and web pages. This study develops and creates a model that can predict whether a URL link is legitimate or phishing. The data set used for the classification was sourced from an open source service called 'Phish Tank' which contain phishing URLs in multiple formats such as CSV, JSON, etc. and also from the University of New Brunswick dataset bank which has a collection of benign, spam, phishing, malware & defacement URLs. Over six (6) machine learning models and deep neural network algorithms all together are used to detect phishing URLs. This study aims to develop a web application software that detects phishing URLs from the collection of over 5,000 URLs which are randomly picked respectively and are fragmented into 80,000 training samples & 20,000 testing samples, which are equally divided between phishing and legitimate URLs. The URL dataset is trained and tested base on some feature selection such as address bar-based features, domain-based features, and HTML & JavaScript-based features to identify legitimate and phishing URLs. In conclusion, the study provided a model for URL classification into phishing and legitimate URLs. This would be very valuable in assisting individuals and companies in identifying phishing attacks by authenticating any link supplied to them to prove its validity...

Keywords: Phishing attacks

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