IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 3, Issue 1, February 2023

Phishing Website Detection using Machine Learning

T. Vyvaswini¹, Mr. P. P Nagaraja Rao², B. Kousalya³, G. Pallavi⁴, S. Abdullal⁵, P. Siddartha⁶

Associate Professor, Department of Electronics and Communication Engineering² UG Students, Department of Electronics and Communication Engineering^{1,3,4,5,6} Sri Venkatesa Perumal College of Engineering and Technology, Puttur, AP, India

Abstract: Phishing is a common attack on credulous people by making them to disclose their unique information using counterfeit websites. The objective of phishing website URLs is to purloin the personal information like user name, passwords and online banking transactions. Phishers use the websites which are visually and semantically similar to those real websites. As technology continues to grow, phishing techniques started to progress rapidly and this needs to be prevented by using anti-phishing mechanisms to detect phishing. Machine learning is a powerful tool used to strive against phishing attacks. In this article, we proposed 5 different algorithms in machine learning to analyse the URLs. The accuracy of the Existing method is approximately 94%, and we have implemented it as 95.235% in the Proposed method. Here we used 5 classifiers which are Random Forest Classifier, AdaBoost Classifier, XGBoost Classifier, Support Vector Machine, Gradient Boosting Classifier. Among all these Classifiers, Random Forest Classifier gives the highest accuracy.

Keywords: AdaBoost, Random forest, XGBoost, performance Analysis, Gradient Boosting and support vector machine

REFERENCES

- [1]. J. Shad and S. Sharma, "A Novel Machine Learning Approach to Detect Phishing Websites Jaypee Institute of Information Technology," pp. 425–430, 2018.
- [2]. Y. Sönmez, T. Tuncer, H. Gökal, and E. Avci, "Phishing web sites features classification based on extreme learning machine," 6th Int. Symp. Digit. Forensic Secur. ISDFS 2018 Proceeding, vol. 2018–Janua, pp. 1–5, 2018.
- [3]. T. Peng, I. Harris, and Y. Sawa, "Detecting Phishing Attacks Using Natural Language Processing and Machine Learning," Proc. 12th IEEE Int. Conf. Semant. Comput. ICSC 2018, vol. 2018–Janua, pp. 300–301, 2018.
- [4]. M. Karabatak and T. Mustafa, "Performance comparison of classifiers on reduced phishing website dataset," 6th Int. Symp. Digit. Forensic Secur. ISDFS 2018 Proceeding, vol. 2018–Janua, pp. 1–5, 2018.
- [5] S. Parekh, D. Parikh, S. Kotak, and P. S. Sankhe, "A New Method for Detection of Phishing Websites: URL Detection," in 2018 Second International Conference on Inventive Communication and Computational Technologies (ICICCT), 2018, vol. 0, no. Icicct, pp. 949–952.
- [6]. Mohammad R., Thabtah F. McCluskey L. (2015) Phishing websites dataset. Available: https://archive.ics.uci.edu/ml/datasets/Phishing+Websites Accessed January 2016.
- [7]. A. Vazhayil, R. Vinayakumar, and K. Soman, "Comparative Study of the Detection of Malicious URLs Using Shallow and Deep Networks," in 2018 9th International Conference on Computing, Communication and Networking Technologies, ICCCNT 2018, 2018, pp. 16.
- [8]. W. Fadheel, M. Abusharkh, and I. Abdel-Qader, "On Feature Selection for the Prediction of Phishing Websites," 2017 IEEE 15th Intl Conf Dependable, Auton. Secur. Comput. 15th Intl Conf Pervasive Intell. Comput. 3rd Intl Conf Big Data Intell. Comput. Cyber Sci. Technol. Congr., pp. 871–876, 2017.
- [9]. X. Zhang, Y. Zeng, X. Jin, Z. Yan, and G. Geng, "Boosting the Phishing Detection Performance by Semantic Analysis," 2017.
- [10]. L. MacHado and J. Gadge, "Phishing Sites Detection Based on C4.5 Decision Tree Algorithm," in 2017 International Conference on Computing, Communication, Control and Automation, ICCUBEA 2017, 2018, pp.

Copyright to IJARSCT DOI: 10.48175/IJARSCT-8318 462
www.ijarsct.co.in

IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 3, Issue 1, February 2023

1-5.

- [11]. Sharma, Ushamary and Ghisingh, Seema and Ramdinmawii, Esther, "A Study on the Cyber Crime and Cyber Criminals: A Global Problem," International Journal of Web Technology, vol 03, pp. 172-179, June 2014.
- [12]. Andrewa, "Cybercrime", http://en.wikipedia.org/wiki/Computer crime, October 15, 2003.
- [13]. Vayansky, I. and Kumar, S., "Phishing challenges and solutions.", Computer Fraud & Security, vol 2018, no. 1, pp. 15-20, January 2018.
- [14]. Vahid Shahrivari, Mohammad Mahdi Darabi, Mohammad Izadi, "Phishing Detection Using Machine Learning Techniques," unpublished.
- [15]. Gokula Chandar ,Leeban Moses M; T. Perarasi M; Rajkumar; "Joint Energy and QoS-Aware Cross-layer Uplink resource allocation for M2M data aggregation over LTE-A Networks", IEEE explore, doi:10.1109/ICAIS53314.2022.9742763.
- [16]. Mustafa Alper Akkaş, Radosveta Sokullu, "An IoT-based greenhouse monitoring system with Micaz motes", https://doi.org/10.1016/j.procs.2017.08.300.
- [17]. P. V. Vimal and K. S. Shivaprakasha, "IOT based greenhouse environment monitoring and controlling system using Arduino platform," 2017 International Conference on Intelligent Computing, Instrumentation and Control Technologies (ICICICT), Kannur, 2017, pp. 1514-1519.
- [18]. Dhuddu Haripriya, Venkatakiran S, Gokulachandar A, "UWB-Mimo antenna of high isolation two elements with wlan single band-notched behavior using roger material", Vol 62, Part 4, 2022, Pg 1717-1721, https://doi.org/10.1016/j.matpr.2021.12.203.
- [19]. Gokula Chandar A, Vijayabhasker R., and Palaniswami S, "MAMRN MIMO antenna magnetic field", Journal of Electrical Engineering, vol.19, 2019.
- [20]. Rukkumani V, Moorthy V, Karthik M, Gokulachandar A, Saravanakumar M, Ananthi P, "Depiction of Structural Properties of Chromium Doped SnO2 Nano Particles for sram Cell Applications", Journal of Materials Today:

Copyright to IJARSCT www.ijarsct.co.in

DOI: 10.48175/IJARSCT-8318