IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, December 2022
Impact Factor: 6.252

Detecting Spam Email With Machine Learning Optimized With Bio-Inspired Metaheuristic Algorithms

Vatan Koshti[1], Aditi Gaherwar[2], Twinkle Ramteke[3] ,Yogeshwari Durgam[4], Prof. Madhavi Sadu[5]
Students, Department of Information Technology[1,2,3,4]
Professor, Department of Information Technology[5]
Rajiv Gandhi College of Engineering Research and Technology, Chandrapur, Maharashtra, India

Abstract: *Electronic mail has eased communication methods for many organizations as well as individuals. Spammers use this strategy to make fraudulent gains by sending unsolicited emails. This project aims to present a method for detection of spam emails with machine learning algorithms that are optimized with bio-inspired methods. A literature review is carried to explore the efficient methods applied on different datasets to achieve good results. The bio-inspired algorithms like Particle Swarm Optimization and Genetic Algorithm were implemented to optimize the performance of classifiers. Multinomial Naïve Bayes with Genetic Algorithm performed the best overall. The comparison of our results with other machine learning and bio-inspired models to show the best suitable model is also discussed.*

Keywords: Bio inspired algorithm, Particle Swarm Optimization algorithm.

REFERENCES

[1] Emmanue Gbenga Dada et al "Machine learning for email spam filtering: review, approaches and open research problems", Heliyon 5 (2019) e01802 Received 3 September 2018; Received in revised form 25 February 2019; Accepted 20 May 2019

[2] Jai Batra et al "A comprehensive study of spam detection in e-mails using bio-inspired optimization techniques", International Journal of Information Management Data Insights 1 (2021) 100006 Received 20 October 2020; Received in revised form 30 November 2020; Accepted 19 December 2020

[3] Dr. V. Malsoru, et al "Detecting Spam Email With Machine LearningOptimized With Bio-Inspired MetaheuristicAlgorithms", JAC : A Journal Of Composition Theory, ISSN : 0731-6755, Page No: 40-47

[4] P. VANAJA, et al "Machine Learning based Optimization for Efficient Detection of Email Spam", Positif Journal, Issn No : 0048-4911, Page No : 310-319

[5] K.Varun Kumar, et al "Machine Learning-based spam detection usingNaïve Bayes Classifier in comparison withLogistic Regression for improving accuracy", Journal of Pharmaceutical Negative Results ¦ Volume 13 ¦ Special Issue 4 ¦ 2022, Page No. 548-554

[6] SIMRAN GIBSON, et al "Detecting Spam Email With Machine Learning Optimized With Bio-Inspired Metaheuristic Algorithms, IEEE Access • January 2020, Page No. 187914-187932

[7] N. Sutta, et al " A Study of Machine Learning Algorithms on Email Spam Classification", EPiC Series in Computing Volume69, 2020, Page No.170-179

[8] Chode Abhinav, et al "Spam Mail Detection using Machine Learning", International Journal for Research in Applied Science & Engineering Technology (IJRASET)ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538, Page no.2327-2329

[9] Thashina Sultana, et al "Email based Spam Detection", International Journal of Engineering Research & Technology (IJERT) IJERTV9IS060087 (Vol. 9 Issue 06, June-2020) Page No. 135-139

[10] Rajesh Kumar J, et al "Email Spam Detection using Machine Learning Techniques", International Advanced Research Journal in Science, Engineering and Technology Vol. 8, Issue 6, June 2021, DOI: 10.17148/IARJSET.2021.8632 Page No. 189-193

[11] Naresh Vinod Wankhade, et al "Paper on Spam Email Detection with Classification Using Machine Learning", INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY , IJIRT 156181, Page No. 1055-1059

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, December 2022
Impact Factor: 6.252

[12] Ms.A. Sowshna, et al "Detecting Spam Email With Machine Learning Optimized With Bio Inspired Metaheuristic Algorithms", International Journal of Scientific Development and Research (IJSDR), Page No. 160-163

[13] Neha Karadkar, et al "Spam Mail Classification Using SVM and Genetic Algorithm", Journal of Emerging Technologies and Innovative Research (JETIR), Page No. e513-e517

[14] Miss. Pratiksha Mantri, et al "A Proposed Paper on Spam Email Detection using Machine Learning", Journal of Emerging Technologies and Innovative Research (JETIR), Page No. a573-577

[15] Nebojsa Bacanin, et al "Application of Natural Language Processing and Machine Learning Boosted with Swarm Intelligence for Spam Email Filtering", Mathematics 2022, 10, 4173. https://doi.org/10.3390/math10224173

[16] Pooja Malhotra, et al "Spam Email Detection using Machine Learning and Deep Learning Techniques", https://ssrn.com/abstract=4145123

[17] Omar Almomani, et al "A Hybrid Model Using Bio-Inspired Metaheuristic Algorithms for Network Intrusion Detection System", Tech Science Press, Page No. 410-429