Analysis of Spam Detection Algorithms in Machine Learning-Based Facebook Social Media Platform Analysis of Spam Detection Algorithms in Machine Learning-Based Facebook Social Media Platform

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Article Info	ABSTRACT
	analysis of spam detection algorithms in Facebook's social media platform using a machine learning approach. With the increasing number of spam disrupting the user experience, effective detection is essential. The machine learning approach allows the system to learn patterns of spam behavior from historical data. The study compared various machine learning algorithms, such as Naive Bayes, Support Vector Machines, and Neural Networks, to determine which are most effective at detecting spam. The results of the experiment showed that the Neural Networks algorithm achieved the highest accuracy in identifying spam content on the Facebook platform. This research provides valuable insights for the development of more sophisticated spam detection systems in the social media environment.

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1. INTRODUCTION

In the increasingly advanced digital era, social media has become an inevitable hub of online interaction for millions of users around the world. However, this opportunity to interact widely also raises new challenges, one of which is spam. Spam on social media platforms, such as Facebook, has become a troubling problem, disrupting the user experience, and even compromising online safety. Spam on Facebook takes many forms, from intrusive commercial messages to harmful scams. Detecting and filtering spam is a critical task for companies and individual users to maintain a clean and safe online environment.

In this discussion, a machine learning-based approach has emerged as an effective solution in tackling spam on social media. Machine learning allows the system to It learns from existing data and identifies complex patterns, enabling more accurate and adaptive spam detection.

In this journal, we will delve into the spam detection algorithm in Facebook's social media platform based on machine learning. We will outline the techniques used, the challenges faced, and their potential positive impacts. By understanding the theoretical and practical foundations underlying machine learning-based spam detection on Facebook, It is hoped that we can step towards a cleaner and safer social media ecosystem for all users.

2.   RESEARCH METHODS

In this analysis, it is concluded that several research methods that we will use, namely

1. OSN has revolutionized communication technology and is now an essential component of the modern web. The most popular social networks globally in January 2022 are shown in Figure 1, sorted by monthly volume (February).
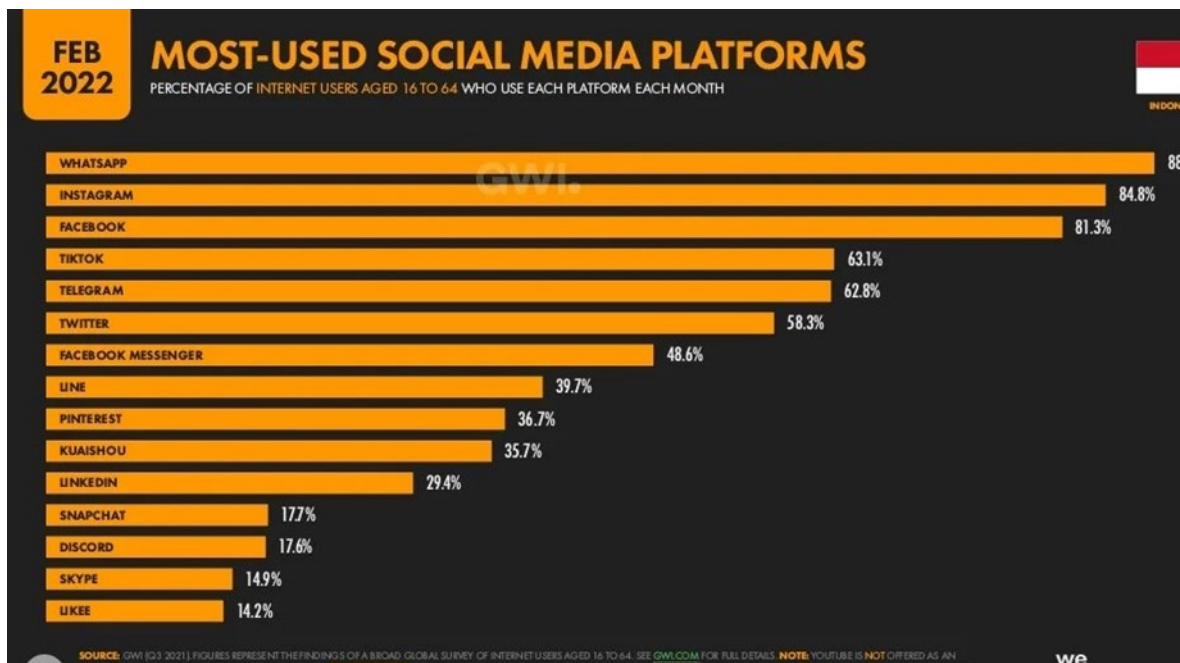
2. Algorithm Data that detects Spam, i.e. Data within Facebook that uses or handles Algorithms in detecting Spam.
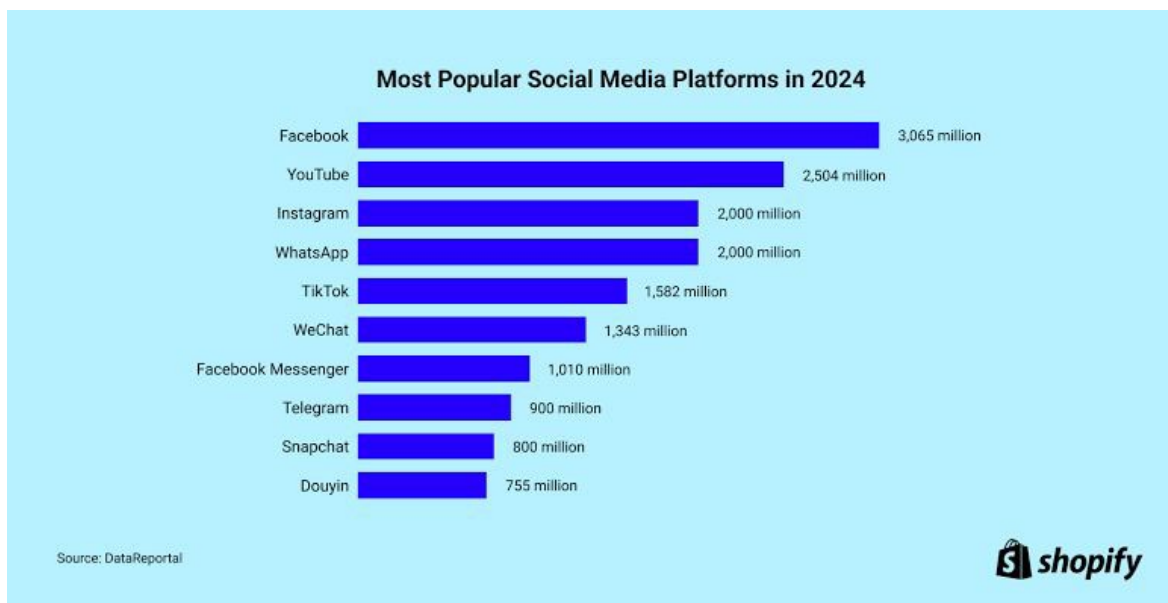
3. Analyze the Machine Learning Base Base. As the title implies, we analyze how the Algorithm detects Spam in the engine.

4. Using Data Samples regarding Spam detection. In an analysis, there needs to be a sample for assertion and authentication.

5. Analyzing the Correlation of Spam Detection Algorithms with Machine Learning on Facebook. Here we try to observe Spam Detection with a Machine.

3.   RESULT AND DISCUSSION

1. Based on the results of OSN mentioned in the methods section, and the latest survey on the most popular Social Media Networks in 2024.

Most Popular Social Media Platforms in 2024

| Platform	Users
Facebook	3,065 million
YouTube	2,504 million
Instagram	2,000 million
WhatsApp	2,000 million
TikTok	1,582 million
WeChat	1,343 million
Facebook Messenger	1,010 million
Telegram	900 million
Snapchat	800 million
Douyin	755 million

Source: DataReportal

In this graph, Facebook emerged as the Social Media app with the most users. Because of this, Facebook plays an important role in the flow of social media and safety for its users. Spam as a distraction in Social Media will obviously shift Facebook's popularity. That's why this application made by Mark Zuckerberg has anti-spam features, one of which is spam detection.

2. Facebook uses the "Report spam" or "Mark Spam" feature which can actually determine the user's basic algorithm and flag content that users don't like. But this feature will be highly dependent on the user and can only detect after the user reports

3. In accordance with the second point. The algorithm detects spam after a user's report and then warns spammers to stop or if it continues, Facebook can block messages that are detected as spam. The message will be blocked immediately by Facebook. But Facebook still offers spam recipients not to block spammers. Spammers can appeal the block and get their account back

4. Sample images of data or explanations on the next page
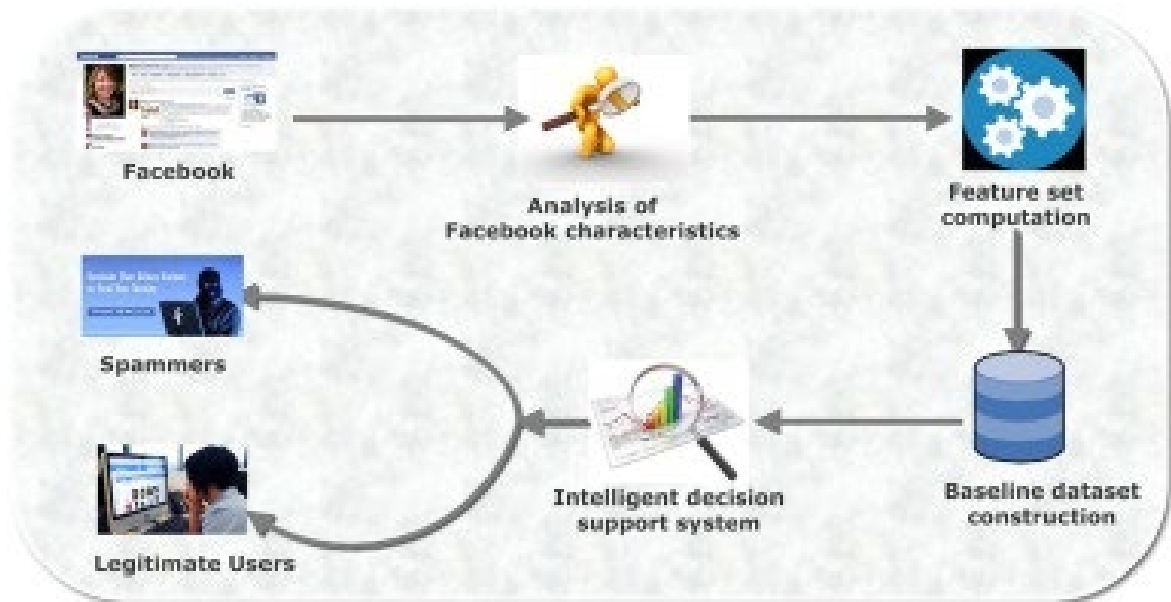
The image above is a sample (example) of how Facebook detects spam. Facebook uses data sets and analytics to make decisions about how to treat spammers and spam spam recipients.
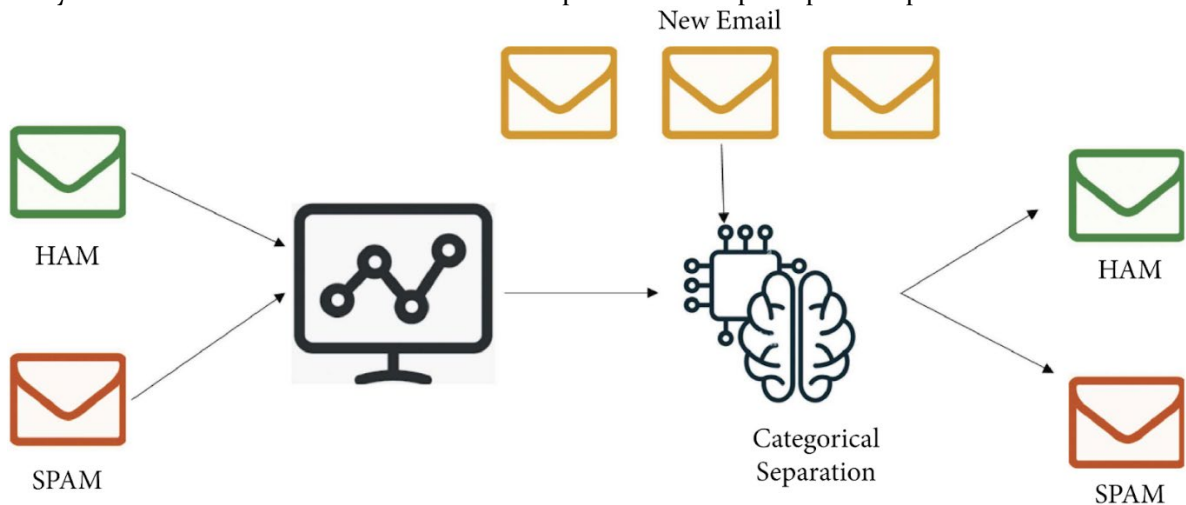
5. The correlation between Algorithms and Machine Learning is very close. An algorithm is a set of procedures for executing commands, one of which is an operation that carries out this spam detection, and creates a Machine learning model

4.   CONCLUSION

Spam Detection Algorithms are closely related to Machine Learning, such as machine learning modeling for algorithms, and algorithms as procedures for running machines including spam detection. Machine Learning is obviously very useful for investigating spam which is then aligned with user reports handled by algorithms.

REFERENSI

We have prepared a number of sources and references from the Internet in the form of sites and links that are references and sources in completing this Journal, we list these sources below

https://www.quora.com/How-do-Facebook-posts-get-marked-as-spam-Is-it-done-automatically-by-some-algorithm-or-must-someone-mark-it-as-spam

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