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Himani Jain ; Mahadev Mahadev All Authors

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Abstract:

social-media is a very common medium for spammers to unethically overwhelm normal users with unsolicited or false content via social-networking. Now a days most of the people are aware of social media. In this paper, we have used SMS Spam Collection dataset that is taken from Kaggle. The Bow with TF and TF-IDF weighing schemes features are used for feature selection. And we used chi-square matrix for features selection. We have done the comparison of state of the art and proposed model. The results show that our proposed model Multinomial Naïve Bayes gave highest accuracy. We offer the variable status of each feature so that it is easy to abolish the inappropriate features. Our results illustrated that our proposed model accomplished effectively high detection rates in terms of high accuracy, compared with other considered researches

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Himani Jain
Quantum University, Roorkee, Uttarakhand

Mahadev Mahadev
Dept of CSE, Quantum University, Roorkee, Uttarakhand

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1. Introduction

As the number of Internet users increases, email and text messaging have proven to be an effective and popular mode of communication. Spam is usually described as the transmission of unsolicited SMS, that is sent to many recipients without their prior consent [1]. With widespread availability of smart phone spammers are sending SMS over the social media. SMS is a very low-cost medium for communicating with others. Now everyone has a smart phone and everyone is now using social media, so spammers send the message to their social media like twitter, WhatsApp, Instagram, Facebook [2]. WhatsApp ratio is higher than other medium. So, spammers just send unsolicited link and message to them. The main objectives of spammers is to use user data such as username, password, and their personal information in illegal way [3]. They may enforce numerous approaches to snipping their data, hence, SMS messages is one the most upfront strategies. It has been seen that various attack are occurs due to email. but the easiness and wide usage of phones have made phishers deliberate SMS messages as a appropriate method. In phishing attacks, the Spammer sends a malicious URL using SMS messages and requests users to visit that URL address in order to snip sensitive and Personal Information from the user's mobile phone [4]. Moreover, there is no limitation for spammers they can simply purchase a lot of call numbers within any country and send unwanted SMS messages. So, it is very challenging to identify and differentiate attackers based on their mobile number. Therefore, in the current study we introduced a vary classification model to detect SMS spam messages in order to improve the challenges in effective manner with high detection rate. Spam detection is a very tedious task so we have used content-based classification technique for features extraction from the text of the message. Because in dataset there are a lot of noisy and irrelevant data are there which increase the training time and reduce the efficiency so we have to extract the relevant features. Some most common classifiers we have used for spam detection are SVMs, Naïve Bayes, Artificial Neural Network, and Random Forests. These classifiers need a way to extract features from the text. The most common model for feature extraction is Bag – of – words (Bow). There are different weighing schemes in Bow model like Term Frequency (TF), Inverse Document Frequency (TF – IDF) etc., but all of them uses the token frequency in some form. The rest of the part proceeds as follows:

Authors ^

Himani Jain
Quantum University, Roorkee, Uttarakhand

Mahadev Mahadev
Dept of CSE, Quantum University, Roorkee, Uttarakhand

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