INT-246

REPORT

Topic- Spam Email Filtering

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ROLE OF TEAM-MATES

Animesh Bhardwaj: Installing Dependencies and coding part, Finding Dataset for training.

Ranjit Chauhan: Coding, Error rectification and Training data.

Introduction

Spam filters detect unsolicited, unwanted, and virus-infested email (called spam) and stop it from getting into email inboxes. Internet Service Providers (ISPs) use spam filters to make sure they aren’t distributing spam. Small- to medium- sized businesses (SMBs) also use spam filters to protect their employees and networks.

Spam filters are applied to both inbound email (email entering the network) and outbound email (email leaving the network). ISPs use both methods to protect their customers. SMBs typically focus on inbound filters.

**How do spam filters work?**

Spam filters use “heuristics” methods, which means that each email message is subjected to thousands of predefined rules (algorithms). Each rule assigns a numerical score to the probability of the message being spam, and if the score passes a certain threshold the email is flagged as spam and blocked from going further.

There are different types of spam filters for different criteria:

* Content filters – parse the content of messages, scanning for words that are commonly used in spam emails.
* Header filters – examine the email header source to look for suspicious information (such as spammer email addresses).
* Blocklist filters – stop emails that come from a blocklist of suspicious IP addresses. Some filters go further and check the IP reputation of the IP address.
* Rules-based filters – apply customized rules designed by the organization to exclude emails from specific senders, or emails containing specific words in their subject line or body.

**Why is spam filtering important?**

A spam filtering solution cannot be 100 percent effective. However, a business email system without spam filtering is highly vulnerable, if not unusable. It is important to stop as much spam as you can, to protect your network from the many possible risks: viruses, phishing attacks, compromised web links and other malicious content.

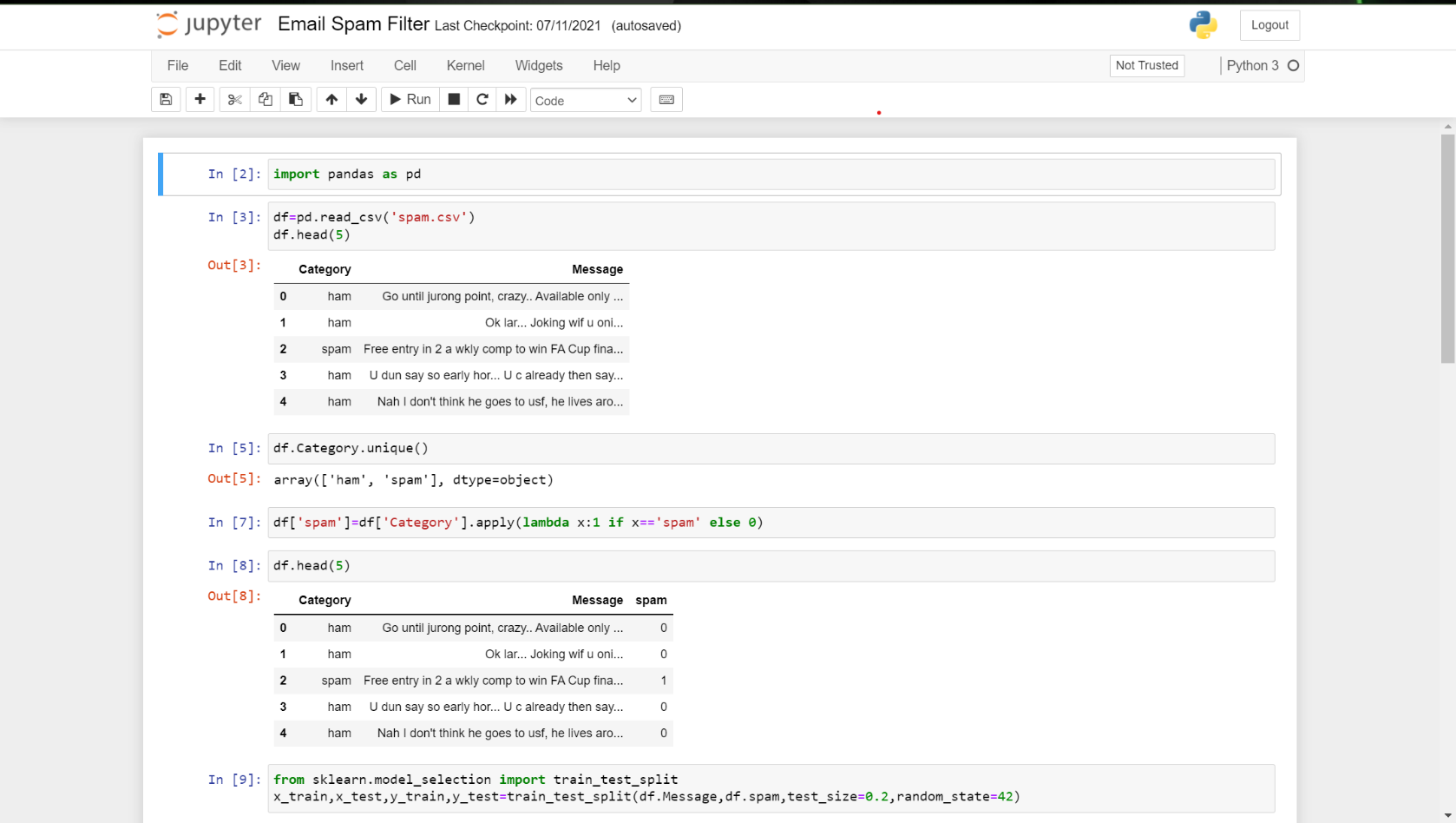
Spam filters also protect your servers from being overloaded with non-essential emails, and the worse problem of being infected with spam software that may turn them into spam servers themselves.

By preventing spam email from reaching your employees’ mailboxes, spam filters give an additional layer of protection to your users, your network, and your business.

Libraries Used

* sklearn.model\_selection

**SCREENSHOTS OF MODEL**

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