**Solution Design**

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**Solution Diagram:**

A close up of text on a white background

Description automatically generated

**Solution Description:**

On our proposed solution, when an email is being sent from an external provider, the email is first entering the receiver’s server to perform prior actions before goes to its inbox. The program that we proposed, firstly, takes the email through our database that includes datasets from our machine learning training. Then the program, compares the text included in the email, and compares it with our dataset we have using the AI. If it finds a match, then it is a spam, and goes directly to spam folder of the receiver, where the receiver has access to it as well. If it is not, then the email goes directly to the receiver’s inbox.

**Data Description:**

|  |  |
| --- | --- |
| **CATEGORY** | **MESSAGE** |
| ham/spam | Test Test Test Test Test Test Test |

**Category:** This column can only contain a Boolean variable of one of the two options (ham or spam) that helps the dataset to distinguish between a spam email or not. Ham means that the email trained or tested on the machine, is not spam. Spam is when the content of the email is malicious and can lead the receiver to a fraud.

**Message:** This column can contain any variable of string type. This is a sample context of the email that has been used to train or test the machine. The emails that are in this dataset are to be compared with the email will be received.

A screen shot of a map

Description automatically generated

**Solution Motivation:**

The reason behind the proposed solution, is so that the emails sent are always checked by the server in order to reduce the possibility of frauds, scam or any cybercriminal activities. Every email has the possibility of being spam, so that means all emails every time should be checked. To achieve that, I believe that the proposed solution succeeds in accomplishing this task. The program is an AI machine learning and can learn more and more over the time, and this is what makes it more successful and promising best results as that means, every time an email sent the system automatically improves.