SPAM MAIL PREDICTION

SUBMITTED BY

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CONTENT:

Email filtering:

one of the primary methods for spam mail detection is email filtering. It involves categorize incoming into spam and non-spam. Machine learning algorithm can be trained to filter out spam mails based on their content and metadata.

Natural Language Processing:

Natural language processing(NLP) is a techinque that enables machine to understand and process human language. It plays a crucial role in spam detection, as it helps in extracting meaningful features from emails such as subject, body, and attachments.

Text Classification:

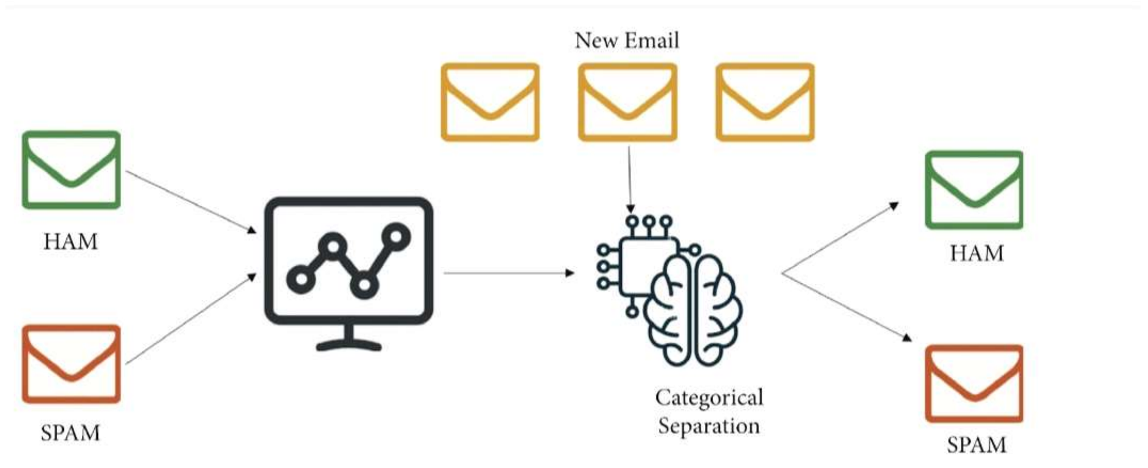
Text classfication is a supervised learning technique used for spam detection. It involves labelling emails as spam or non-spam based on their features, such as the present of certain keyword,tone, or grammer.

Features Engineering:

Features engineering is the process of selecting relevant features from the email to classify it as spam or non-spam. It involves extracting features such as the sender's email address, the presence of certain words or phrases, and the length of the email.

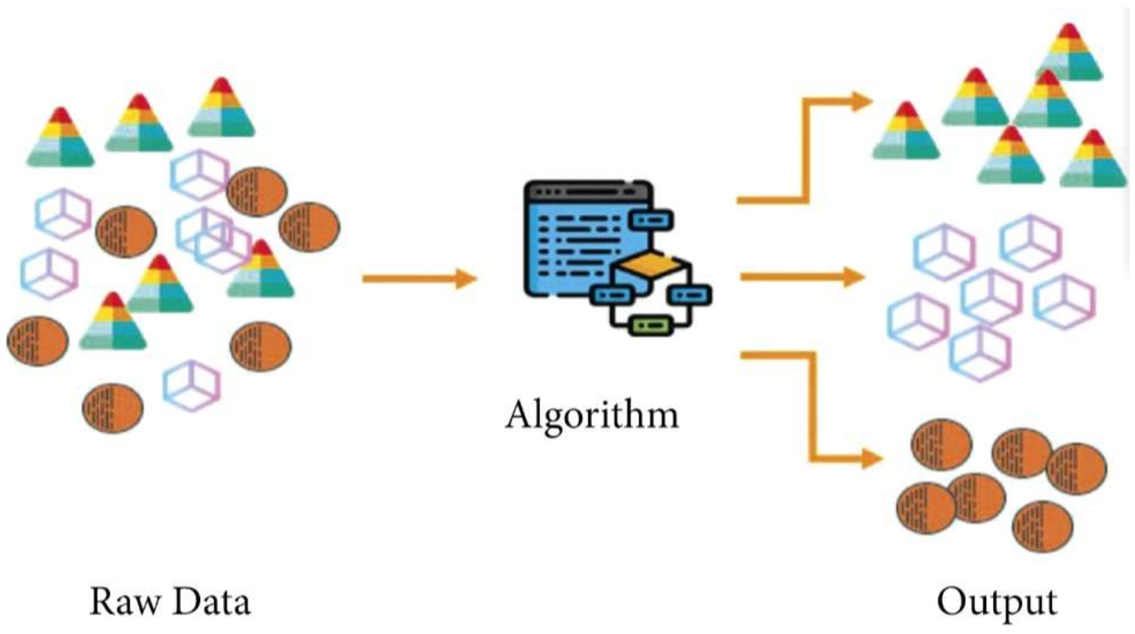
Supervised Learning:

Supervised learning is a technique that involves training the model on lables of new, unlabeled data. It is widely used in spam detection for text classification tasks



Unsupervised Learning:

Unsupervised learning is a technique used to find hidden pattern in the data without the need for labelled data. It can be used for ankomaly rule mining.

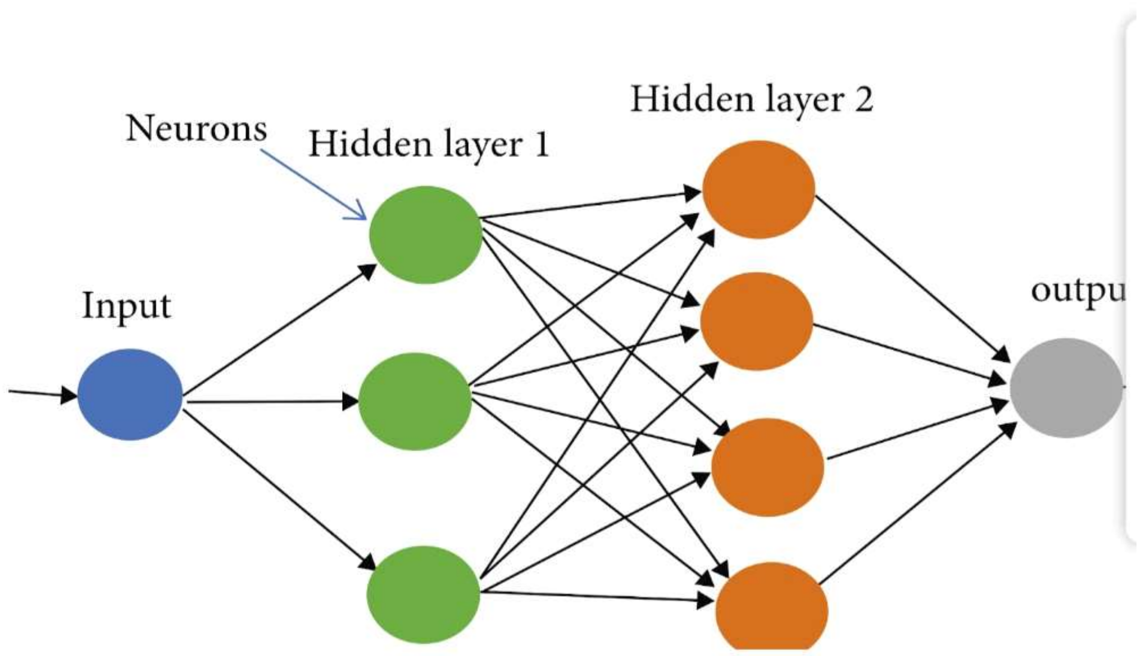


Deep Learning:

Deep learning is a subfield of machine learning that involves training deep neural nerworks with multiple hidden layers to learn complex features from the data. It has shown great promise in spam detection tasks.

Neural Networks:

Neural networks are a type of deep learning model inspired by the human brain. They can be trained to extract meaningful features from emails and classify them as spam or non-spam.



Decision Trees:

Decision trees are a simple yet effective algorithm used for classification tasks. They can be used for features selection, and the results can be easily interpreted.

Random Forest:

Random forest is an ensemble learning technique that combines multiple decisio trees to improve the classificatio performance. It is widely used in spam detection due to its high accuracy and robustness.

Support Vector Machines:

Support Vector Machines(SVM)are a popular machine learning algorithim used for classification tasks. They work by finding the hyperplane that different classes.

Naive Bayes:

Naive bayes is a probailistic algorithm widely used in text classification tasks, including spam detection. It works by calculating the probability of a message being spam given its features.

Conclusion:

with the right tools and technique, it is possible to build highly effective spam mail detection system using machine learning. By leveraging the power of these technique,we can help protect individuals and organization from the growing threat of spam and other email-based attacks.

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    "2      Free entry in 2 a wkly comp to win FA Cup fina...\n",
    "3      U dun say so early hor... U c already then say...\n",
    "4      Nah I don't think he goes to usf, he lives aro...\n",
    "                              ...                        \n",
    "5567    This is the 2nd time we have tried 2 contact u...\n",
    "5568                 Will ü b going to esplanade fr home?\n",
    "5569    Pity, * was in mood for that. So...any other s...\n",
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    "4304                                 Yup i'm free...\n",
    "3266    44 7732584351, Do you want a New Nokia 3510i c...\n",
    "                            ...                        \n",
    "789     5 Free Top Polyphonic Tones call 087018728737,...\n",
    "968     What do u want when i come back?.a beautiful n...\n",
    "1667    Guess who spent all last night phasing in and ...\n",
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    "print('Accuracy on test data : ', accuracy_on_test_data)"
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    "input_mail = [\"I've been searching for the right words to thank you for this breather. I
promise i wont take your help for granted and will fulfil my promise. You have been wonderful
and a blessing at all times\"]\n"
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   "else:\n",
   "  print('Spam mail')"
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