**PHASE 3**

**BUILDING A SMARTER AI-POWERED SPAM CLASSIFIER**

**TEAM MEMBERS:**

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**Abstract:**

Spam Classification using Artificial Intelligence – For business purposes, email is the most widely utilized mode of official communication. Despite the availability of other forms of communication, email usage continues to rise. In today’s world, automated email management is critical since the volume of emails grows by the day. More than 55 percent of all emails have been recognized as spam. This demonstrates that spammers waste email users’ time and resources while producing no meaningful results. Spammers employ sophisticated and inventive strategies to carry out their criminal actions via spam emails. As a result, it is critical to comprehend the many spam email classification tactics and mechanisms. The main focus of this paper is on spam classification using machine learning algorithms. Furthermore, this research includes a thorough examination and evaluation of research on several machine-learning methodologies and email properties used in various Machine Learning approaches. Future study goals and obstacles in the subject of spam classification are also discussed, which may be valuable to future researchers

**Objective:**

Machine learning algorithms use statistical models to classify data. In the case of spam detection, a trained machine learning model must be able to determine whether the sequence of words found in an email is closer to those found in spam emails or safe ones.

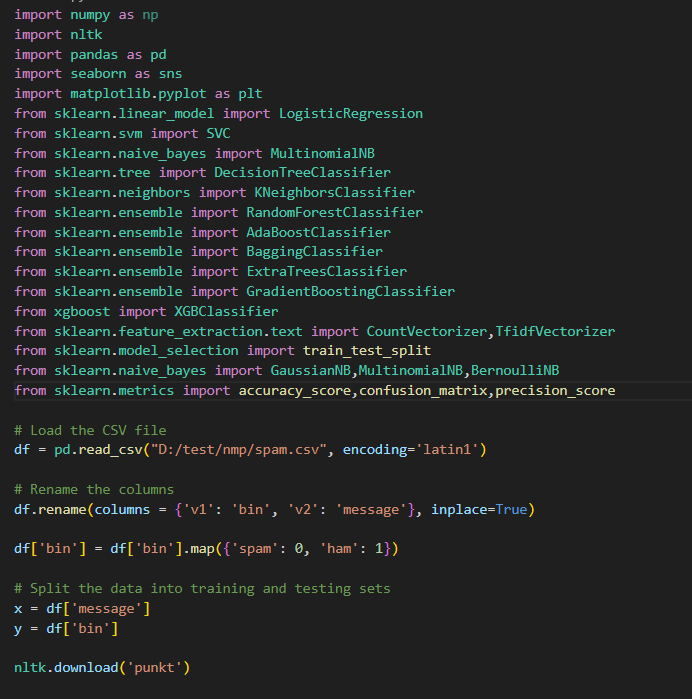
**Introduction:**

For the majority of internet users, email has become the most often utilized formal communication channel. In recent years, there has been a surge in email usage, which has exacerbated the problems presented by spam emails. Spam, often known as junk email, is the act of sending unsolicited mass messages to a large number of people. ‘Ham’ refers to emails that are meaningful but of a different type. Every day, the average email user receives roughly 40-50 emails. Spammers earn roughly 3.5 million dollars per year from spam, resulting in financial damages on both a personal and institutional level. As a result, consumers devote a large amount of their working time to these emails. Spam is said to account for more than half of all email server traffic, sending out a vast volume of undesired and uninvited bulk emails.They squander user resources on useless output, lowering productivity. Spammers use spam for marketing goals to spread malicious criminal acts such as identity theft, financial disruptions, stealing sensitive information, and reputational damage.

**Overview of the Dataset used:**

The SMS Spam Collection is a set of SMS-tagged messages that have been collected for SMS Spam research. It contains one set of SMS messages in English of 5,574 messages, tagged according to being ham (legitimate) or spam.

**Program:**

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