**SMS SPAM CLASSIFICATION**

**Introduction:**

SMS spam classification is the process of automatically identifying and categorizing incoming text messages as either spam (unwanted) or ham (legitimate).

**Key Points:**

* Gather a dataset of SMS messages labelled as spam or ham.
* Apply Data Pre-processing steps which consist of Tokenisation, Lower Casing and Stop Word removal
* Choose a machine learning algorithm for classification. Common choices include:

Naive Bayes, Support Vector Machines (SVM), Logistic Regression and Random Forest Neural Networks (Deep Learning)

* Split your dataset into training and testing the sets and Train the chosen model
* Test the model's performance on the testing dataset using evaluation metrics such as accuracy, precision, recall, F1-score, and ROC-AUC.
* Optimize the model's hyper parameters to achieve better performance.
* Integration with SMS gateways or mobile apps allows automatic spam filtering.
* Continuously monitor the model's performance in production and retrain it periodically to adapt to changing spam patterns.
* In corporate user feedback to improve the model's accuracy and to identify false positives and false negatives.

**Summary:**

SMS spam classification is a machine learning task that involves training a model to distinguish between spam and legitimate SMS messages based on their textual content, with the aim of improving the user's messaging experience by f4 iltering out unwanted messages**.**