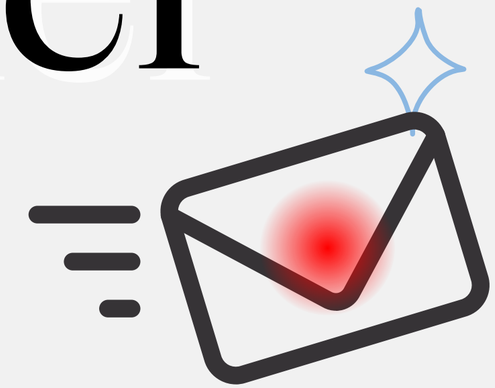
Spam Message Classifier



Problem Statement

Spam Email Classifier:

Develop an AI model to automatically filter spam emails by analyzing text patterns (e.g., keywords, links). Use NLP techniques like TF-IDF and classification algorithms (Naive Bayes, SVM) to achieve high accuracy.

Project vision and mission

To create a safer, spam-free digital communication experience using AI-driven automation

01. Detect spam emails with high accuracy using Machine Learning.

02. Automatically delete harmful emails to protect users.

03. Ensure privacy and security by preventing phishing attacks.

Inspiration and creativity

🔹 **Inspiration:**

- 85% of emails sent daily are spam (Source: Statista).
- Spam emails waste storage and pose security threats (phishing, scams).
- Manually filtering emails is time-consuming; AI can automate this!

🛠️ **Creativity & Uniqueness:**

- Self-learning AI that adapts to new spam patterns.
- Deletes spam emails automatically after user consent.
- Lightweight & efficient, can be integrated with Gmail, Outlook, etc.

Ideation process

01

Collect & preprocess a dataset (Enron/Kaggle Spam Dataset).

02

Convert email text into TF-IDF features for Machine Learning.

03

Train a Naïve Bayes/SVM model for spam classification.

04

Deploy the model into an email service via API integration

05

Automatically delete detected spam emails.

Mind map

📂 Dataset

📊 Feature Extraction (TF-IDF)

🤖 Model Training (ML Algorithm)

🔍 Spam Prediction

🚮 Email Deletion

Reflections & How It’s Useful

🎯 **How it helps?**
Reduces email clutter and saves storage.
Protects against phishing & scams.
Enhances productivity by removing distractions.

🤔 **Future Improvements:**
Train on real-time spam threats.
Improve false positive rates to avoid misclassifying important emails.
Allow user customization (Whitelist/Blacklist).

Thank you very much!