

Email Spam Detection Project Report

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Project Objective:

To build an email classification system that automatically labels incoming emails as Spam or Not Spam.

Approach:

- Combined email subject and body
- Preprocessed text (lowercasing, punctuation removal, etc.)
- Extracted features using TF-IDF
- Trained a Multinomial Naive Bayes classifier
- Evaluated the model using accuracy, precision, recall, F1-score, and confusion matrix

Deployment:

- Developed a Streamlit web app for real-time email classification
- Saved model and vectorizer using Joblib