

Smart Mail Mentor

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Abstract—.....

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I. INTRODUCTION

In the early 1970s, email was invented, and from then email became mainstream for communication by enabling fast, global, and efficient messaging transforming business and personal interactions. Today, email is the main method we use for long-distance communication. More than 100 billion messages are received and sent every day, and that number is only expected to increase. As billions of messages are generated daily, the chance of missing messages by individual or organizations are at high risk. Missing the mails lead to a big loss for business or organizations or individuals.

Preventing the loss of messages or mails is crucial in the current world. Existing emails have lack of features that automate the generation of the mail report for daily or weekly. Smart mail mentor feature helps prevent the loss of messages.

Smart mail mentor is Natural language processing technique, artificial intelligence, machine learning, and deep learning. This feature automates daily or weekly emails and generates the report without losing mails.

II. LITERATURE REVIEW

Email management has become an essential task in today's digital age, where individuals and organizations receive a large volume of emails daily. Efficiently managing and prioritizing emails is crucial to improving productivity and reducing information overload. Several studies have explored various approaches to automate email classification, prioritization, and summarization.

Machine Learning (ML) techniques have played a significant role in email classification. Traditional approaches such as Naïve Bayes, Support Vector Machines (SVM), and Random Forest classifiers have been widely used to categorize emails into predefined categories like spam, promotional, or business emails [1]. However, recent advancements in deep learning, particularly Long Short-Term Memory (LSTM) networks, have demonstrated improved accuracy in text-based classification tasks, including email filtering [2].

The TF-IDF (Term Frequency-Inverse Document Frequency) and Random Forest approach has been particularly effective in feature extraction and classification. TF-IDF helps in identifying important words within emails, while Random Forest improves classification accuracy by leveraging an ensemble of decision trees [3]. Additionally, LSTM-based models have shown superior performance in handling sequential text data, making them well-suited for email classification [4].

Natural Language Processing (NLP) techniques have further enhanced email analysis by enabling text summarization and sentiment analysis. Transformer-based models like BERT significantly improved contextual understanding in summarization tasks.

III. EASE OF USE

The Smart Mail Mentor extension is designed to enhance user experience by offering a seamless and automated approach to email management. The following features ensure ease of use:

Automated Email Classification: The system categorizes emails into predefined groups such as Promotional, Personal, Business, Order Confirmation, and Subscription Renewals without user intervention. This classification is powered by ML models like LSTM and Random Forest, ensuring high accuracy and minimal manual effort.

Simple Setup and Minimal Configuration: Users only need to authenticate the extension using the Google Gmail API. Once connected, the system automatically fetches emails and processes them without requiring further input.

Prioritization of Important Emails: The extension filters emails based on urgency, sender importance, and content using NLP techniques, ensuring that users can focus on high-priority messages first.

Concise Email Summarization: Instead of manually reading multiple emails, users receive a daily or weekly report with AI-generated summaries, significantly reducing time spent on email management.

Seamless Browser Integration: As a browser extension, Smart Mail Mentor runs in the background without disrupting user workflow. It provides real-time insights without requiring additional software installations.

By integrating AI-powered automation, Smart Mail Mentor simplifies email management while enhancing productivity, ensuring a smooth and user-friendly experience.

TABLE I
TABLE TYPE STYLES

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Fig. 1. Example of a figure caption.

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ACKNOWLEDGMENT

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