Abstract— **Email spam is a significant issue for email users as it is not only disruptive but also poses a threat to data security through phishing and malware attacks. Therefore, an effective and efficient spam detection system is required. This study developed a spam detection system using the Bi-directional Long Short-Term Memory (Bi-LSTM) method, aimed at classifying emails as spam or not spam with high accuracy. This topic is important due to the increasing volume of spam emails threatening users' privacy and security. Currently, built-in spam filters, such as those in Gmail and Outlook, still lack accuracy, particularly in avoiding important emails being mistakenly categorized as spam. The spam detection system developed using Bi-LSTM involves several key stages, such as data collection, preprocessing to clean the data, feature extraction, and email classification. Bi-LSTM was chosen for its ability to process text sequences bidirectionally, enhancing spam detection accuracy by considering the context of words in the email. System testing showed that the Bi-LSTM method achieved an accuracy rate of 99.90% in detecting spam emails. This result indicates that the system is effective in identifying and classifying emails as spam or not, with good potential for integration into various email platforms.**

Keywords— spam detection, Bi-LSTM, spam filter, deep learning, webmail