

ABSTRACT

The prolonged conflict between Palestine and Israel drew renewed global attention following the deaths of two Hamas leaders, Ismail Haniyeh and Yahya Sinwar. Their passing triggered strong emotional reactions on social media, highlighting the need for real-time geo-spatial sentiment analysis. This study aims to examine global sentiment dynamics using geotagged English-language tweets collected from platform X (formerly Twitter) between July and December 2024. The methodology integrates a classification model based on *Bidirectional Long Short-Term Memory* (BiLSTM). Temporal analysis revealed a surge in positive sentiment in August following Haniyeh's death, viewed as a moderate figure, while October saw dominant negative sentiment after Sinwar's death, who was perceived as more militant. This contrast reflects how public narratives influence sentiment expression. The BiLSTM model achieved 82.76% validation accuracy, with the highest F1 score 94% in the neutral category. The distribution of spatial sentiment analysis indicates the presence of polarization, where majority Muslim countries such as Turkey and Pakistan tend to exhibit positive sentiment, while Russia, Spain, and Portugal show predominantly negative sentiment. Western countries demonstrate diversity, with the UK and Germany displaying more supportive attitudes. These findings underscore the significance of integrating spatial-temporal analysis in understanding public reactions to geopolitical crises and provide recommendations for further research using transformer-based models and multilingual data.

Keywords: geotagged tweets, time-stamp, sentiment analysis, Palestina, Israel, BiLSTM.