

ABSTRACT

Identifying fake reviews in today's digital era is important. This is because the increasing prevalence of fake reviews will have a less favorable impact on individuals or groups. therefore, this problem needs to be addressed by implementing an identification process. One of them is the cross-domain method, where data is used to make predictions on data from other domains. However, this process still has some issues that need to be addressed, such as low accuracy and models that are not yet capable of recognizing the characteristics of text in both domains. Therefore, this study proposes a deep neural network-based approach that combines Convolutional Neural Network (CNN) and Bidirectional Long Short-Term Memory (BiLSTM) architectures, as well as utilizing the Multi-Feature Rolling Collaborative Training (MRCT) method. This approach combines two main types of features — textual and behavioral — with the aim of enriching the data representation so that the model can more effectively identify false review patterns. This study used three data domains, namely Amazon Clothing Shoes and Jewelry (ACJ), Amazon Sports and Outdoors (ASO), and Yelp Restaurant (YR), with two testing schemes. The results of the experiment show that the model's performance is highly dependent on the degree of similarity between the characteristics of the training and test domains. In schemes with high similarity (ACJ-ASO), the model achieves an accuracy of up to 99.99%, whereas in schemes with different characteristics (ACJ-YR), the accuracy is only 65%. Meanwhile, the MRCT method did not yield a significant increase in accuracy, although it was able to maintain the stability of the evaluation metrics' values. Based on these findings, it can be concluded that the success of identifying fake reviews across domains is greatly influenced by the similarity of domain characteristics, as well as the importance of selecting the right features. The combination of CNN-BiLSTM and MRCT has potential, but it still requires improvement in terms of adapting to different domains.

Keywords: Cross-Domain Classification, Deep Neural Network, Multi-Feature Rolling Collaborative Training, Identification Fake review.