

## **ABSTRACT**

Information Technology has been flooded with a vast amount of data, which is constantly transmitted by a large number of users in the form of online journals, feedback, reviews, news blogs, comments, micro-blogging websites, social media, and other forms of communication. Because there is such a large volume of evaluation of valuable web materials, a large portion of the study is focused on sentiment analysis. News analysis can be used to trace a firm's behavior across time and, in this way, uncover important information about the company.

Sentiment analysis is also used in web-based life checking to explain the overall disposition or state of mind of buyers as expressed in web-based life toward a specific brand or organization and determine whether they regard it positively or negatively. Reading the news on the internet has become a daily activity for some consumers. People's perspectives will differ in general depending on the news they are exposed to. The news covers events that include emotions, whether positive, negative, or neutral.

While there has been a noticeable increase in text mining and sentiment analysis applications in the news industry, no magic bullet approaches for sentiment analysis have been discovered. However, because the problem is challenging even for human predictions, new and better approaches are eagerly expected. News is also distinct from much of the other content in the media, posing a unique set of challenges in sentiment analysis. News nonetheless adheres to journalistic norms, striving for impartiality and fairness in reporting, although operating within a larger framework of media that is increasingly commercial and increasingly created by citizens and other information producers on non-journalistic platforms.

News, on the other hand, is a challenging genre to analyze. News reports are generally objective; however, there are subjective texts within

journalism, as previously said. In news pieces, there are also opinion components, such as quotes and points of view from interviewees or other sources. Thus, when approaching news with tools of sentiment analysis it is important to note that news does not equal journalism but operates within a larger field of journalism. In the Introduction, the concepts required for an understanding of sentiment analysis, news events, machine learning techniques for sentiment classification are discussed in detail. Literature Review describes the technical background of the existing background of sentiment analysis. It also presents existing machine learning methods. It also explains the background and the literature work-related sentiment analysis of news articles.

Privacy-Preserving Framework for Financial Data chapter takes into account the company or financial data that must be processed and transmitted in a cloud environment, such as GDP per capita, stock market data, and monetary data. Hybrid classifier for sentiment Analysis chapter implements NSU-ROA Hybrid Classification, Solution Encoding, and Conventional Rider Optimization Algorithm. Privacy Preservation of Cloud Data in Business Application chapter implements a new hybrid meta-heuristic concept for the creation of a strategy to protect the privacy of cloud business information.

The results have shown that the developed NSU-ROA+DBN+NN attained high accuracy, which was 2.6% superior to PSO, 3% superior to FF, 3.8% superior to GWO, 5.5% superior to WOA, and 3.2% superior to ROA-based DBN+NN from dataset 1. The classification analysis has shown that the accuracy of the proposed NSU-DBN+NN was 3.4% enhanced than DBN+NN, 25% enhanced than DBN, and 28.5% enhanced than NN, and 32.3% enhanced than SVM from dataset 2. As a result, the proposed NSU-ROA+DBN+NN model's effectiveness in sentiment analysis of newspaper articles has been demonstrated.