

Abstract– Technology in the Industrial Revolution 4.0 era supports modern learning through apps like Photomath, simplifying math problem-solving for users. However, diverse user reviews highlight the need for sentiment analysis to evaluate app quality. This research analyzes 9,059 reviews of Photomath collected from the Google Play Store using Python. Word2Vec is used in the study to compare Random Forest and Support Vector Machine (SVM) classifiers for feature extraction. To ensure clean and consistent data, preprocessing techniques such as stemming, tokenization, and stopword removal were used. Text with rich semantic aspects was mathematically represented using Word2Vec. The findings show that SVM using an RBF kernel performed better than Random Forest, with an F1-score of 88.5%, 88.5% accuracy, 88.7% precision, and 88.5% recall. Performance was effectively improved by combining 300-dimensional Word2Vec with stemming algorithms. While Random Forest achieved slightly lower accuracy, it shows promise for specific use cases. This study offers practical insights for improving Photomath by tailoring updates based on user sentiment. The findings emphasize the importance of preprocessing, dimensional optimization, and classifier selection in developing accurate sentiment analysis models. Limitations include the dataset size and the use of classical machine learning models. Future research could address these by exploring larger datasets or deep learning techniques to further improve performance.

Keywords: Photomath; Random Forest; Sentiment Analysis; Support Vector Machine (SVM); Word2Vec