ABSTRACT

The development of Artificial Intelligence (AI) has accelerated rapidly with the emergence of Generative AI and Large Language Models (LLMs), which serve as the technological foundation for the creation of AI Companions. One popular example of an AI Companion is Character AI, a platform that allows users to interact with virtual characters created according to their individual preferences. As of August 2024, the application has been downloaded over 10 million times and has received more than 1.11 million reviews on the Google Play Store. This large number of reviews reflects high user enthusiasm. However, a large number of reviews does not necessarily reflect a predominance of positive sentiment. Therefore, this study aims to analyze user sentiment toward the Character AI application by employing the Support Vector Machine (SVM) classification method, which uses three types of kernels, namely Linear, Radial Basis Function (RBF), and Polynomial. The dataset consists of 15000 user reviews transformed into numerical features using TF-IDF, resulting in 2372 features. Chi-Square was applied for dimensionality reduction and to enhance feature relevance to sentiment labels, reducing the number of features to 521 of the most informative ones. The results show that the RBF kernel with parameters C = 100 and $\gamma = 0,1$ achieved the best performance, with an accuracy of 94,15%. Furthermore, the RBF kernel also delivered the highest performance in each class, with an F1-score of 95,00% for the positive class and 92,96% for the negative class. These findings indicate that the SVM model with the RBF kernel is effective in analyzing user sentiment toward Character AI.

Keywords : Sentiment Analysis, Character AI, Support Vector Machine, Chi-Square