

## ABSTRACT

Genshin Impact is a role-playing game (RPG) developed by miHoYo in 2020. The game has attracted over 60 million players worldwide. The popularity of Genshin Impact has garnered numerous player reviews, both positive and negative, which can be analyzed to understand user perceptions of the game. Furthermore, the game's regular updates trigger diverse comments and opinions from players. While some players appreciate the new content provided, others express criticism regarding gameplay mechanics, storylines or the implemented gacha system. These player reviews provide valuable insights for developers regarding player satisfaction, expectations and criticisms. However, in the review labeling process, the number of reviews with positive and negative sentiments is often imbalanced. This imbalance can cause bias in modeling and impact the accuracy of sentiment classification results. To address this, this study analyzes Genshin Impact game reviews using the Support Vector Machine (SVM) method, focusing on model performance in both imbalanced data conditions and after balancing. Through oversampling techniques and TF-IDF weighting, the research tests sentiment classification models with different kernel variations, namely Linear, RBF and Polynomial kernels. The results showed excellent performance across all three SVM kernels with evaluation metric values consistently above 95%. Linear and RBF kernels achieve optimal performance with accuracy of 98%, precision of 99%, recall of 99% and f1-score of 99%, while the Polynomial kernel provided slightly lower but still satisfactory performance. Data balancing did not significantly impact model performance, indicating that the SVM model is already optimal in handling imbalanced data in this case.

**Keywords** : Genshin Impact, SVM, *Sentiment Analysis*, *Oversampling*, Kernel