

**COMPARING MACHINE LEARNING-BASED METHODS TO
IMPLEMENT SENTIMENT ANALYSIS ON GAME REVIEWS POSTED
ON TWITTER**

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Video games have been a very significant factor in the world of entertainment. It is favored by typically young people or just people who are into them. It lets the players use their cognitive thought and critical thinking as well in order for them to navigate in the world of video games and strategize the best way possible to complete the game in such a short amount of time while also maximizing the amount of fun they are having. Therefore, such things will enable users or players to leave reviews on specific games, about how good or bad it is, and social media platforms are one of the best places for such reviews to be left in, as it allows for diversification as wide publicity.

In this research, the author conducted a sentiment analysis on a diverse Twitter dataset about video game reviews spanning for about 6 months, leveraging machine learning techniques such as Naïve Bayes, KNN, and Support Vector Machines, as the author aims to compare the efficiency of each method and determine which of the methods employed will be the best in performing the analysis. The author aims to compare the results with Confusion Matrix and K-Fold Cross Validation and discuss the implications of their findings for the whole research.

Despite the significant time it takes for completion, this research contributes to the growing body of knowledge in Sentiment Analysis on Social Media Platforms as well as in the Gaming Industry. The results of the research shows that the Polynomial Support Vector Machines yielded the best overall results as opposed to the other methods, and all methods utilize their best hyperparameters, with an accuracy of x as opposed to x from the Gaussian Naïve Bayes, which has the lowest accuracy.

Keywords: Sentiment Analysis, Twitter, Game Reviews, Naïve Bayes, KNN, Support Vector Machines