



**PROJECT REPORT**  
**COMPARISON OF SUPPORT VECTOR**  
**MACHINE(SVM), XGBOOST AND RANDOM FOREST FOR**  
**SENTIMENT ANALYSIS OF BUMBLE APP USER**  
**COMMENTS**

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## **ABSTRACT (ABSTRACT TITLE)**

*Sentiment analysis is the process of classifying texts into positive or negative sentiments. This is a common process in natural language processing (NLP), and has applications in areas such as customer feedback, product reviews, and social media. In this paper, the authors compare the performance of three different machine learning algorithms for sentiment analysis namely the Support Vector Machine (SVM), XGBoost, and Random Forest. The author evaluates the algorithm on a collection of review data from the Bumble application which is the first rated dating application on the Google Play Store where this dating application allows users to swipe left or right on potential partners, as well as various other interesting features provided to communicate with partners. From the research results the authors found that the Random Forest achieved the best performance, with an accuracy of 85.76%. SVM and XGBoost achieved 85.58% and 84.14% accuracy respectively. The results of this study indicate that Random Forest is a good choice for sentiment analysis tasks, especially when data is limited.*

*Keyword: SVM, XGBoost, Random Forest, Stemming, Sentiment Analysis*

