

## Abstract

Student service at a university is a useful information system that is useful for supporting academic efficiency and effectiveness. The web-based application can help manage schedules, grades, and employee performance appraisals including services. Assessment or commonly called sentiment analysis of a service is needed to find out how good or bad the service is for its students. But the huge amount of data that is available makes the sentiment analysis process impossible to do it manually, hence, its required to have a system that can analyze the positive and negative sentiments by taking short time and high accuracy.

The computerized sentiment analysis process is carried out using the classification method, it is a decision making method to determine the class of the data being tested. In the case of sentiment analysis, the method is used to determine a service that has been given and is limited to two classes: positive class (+1) and negative class (-1). Designing a classification model for student services at univerisity in this research used Support Vector Machine and K-Nearest Neighbor. Comparing SVM and KNN aimed to find the highest accuracy value so that it can be said to be optimal for use in the analysis of further student service sentiments. In an effort to find the most optimal accuracy value in each model, optimized C parameter in SVM and K value on KNN was carried out by changing the value continuously in a certain range of values and was an integer, then in testing stage the result showed that the optimal results from Support Vector was not too significant to the Nearest Neighbor accuracy value. The test results showed the SVM accuracy value was better than the KNN any sub services, the most optimal C parameter for Asrama sub-service to Beasiswa is  $C = 1$  and Kegiatan Mahasiswa,  $C = 2$ . The next stage was testing sentiments using SVM that has been set up, thus, Asrama was a sub-service with the biggest negative sentiment compared to other sub-services, resulting 39.70% and the lowest was Beasiswa with negative sentiment of 21.58% that being sad, evaluation in every services is a necessary as the precentage of students satisfaction is still low for student services.

*Keywords: sentiment analysis, preprocessing, support vector machine, K-Nearest Neighbor, student services, parameter C, value of K*

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