Abstract

PT PLN (Persero) has developed the PLN Mobile application to provide electricity services. The large number of users has resulted in various reviews regarding the strengths, weaknesses, and issues of the application. To evaluate the application's quality, sentiment analysis is conducted on user reviews. Review data is obtained through the Google-Play-Scraper API and cleaned through text preprocessing. This study utilizes the TF-IDF feature extraction method and Random Forest for classification. TF-IDF involves weighting each word in a text. This method transforms words into numerical representations, indicating both their frequency and relevance within the document's context. Random Forest is a supervised machine learning algorithm that utilizes ensemble learning which categorizes reviews into positive and negative, This study produced the best model using stemming data and TF-IDF unigram, along with a combination of hyperparameters. The n- estimator was set to 100, max_feature to log2, max_depth to unlimited (none), and entropy criterion, resulting in the highest F1-Score of up to 93.14%.

Keywords: ***sentiment analysis, user reviews, pln mobile, random forest, tf-idf*****.**