ABSTRACT

Artificial Intelligence (AI) is a field developed to study and imitate human intelligence so that it can be applied to a computer system. The use of AI in the business world is currently growing rapidly. One of the AI technologies that can be applied for business purposes is sentiment analysis. Sentiment analysis is a process of identifying opinions from texts written in human language. Sentiment analysis can be used to analyze and evaluate the customer experience of the services that have been provided. With easy access to social media, sentiment analysis can be applied from people's comments on social media. One of the social media that is suitable for sentiment analysis is Twitter.

In this final project, the system is designed to apply sentiment analysis using the BiLSTM method. There are 2 models made, namely Model 1 and Model 2. Model 1 is to detect negative sentiment or not, while Model 2 is to detect positive or neutral sentiment. The model that has been trained is then tested with dataset related to Indihome through web scraping results from Twitter. The system is designed using the Python programming language to create the model.

From the results of this study, Model 1 with the best configuration achieved a test accuracy of 89.22%. Model 2 with the best configuration achieved a test accuracy of 88.2%. In addition, the output of this final project is also calculating the precision, recall, and f1-score.

Keywords: *Artificial Intelligence*, *sentiment analysis*, BiLSTM, *customer experience*, Twitter, Indihome.