ABSTRACT

Mental disorders are disturbances in the way of thinking, emotions, and actions. Depression is one type of mental disorder. The diversity of biological, psychological, and social factors in the population in Indonesia causes the number of cases of mental disorders to continue to increase which has an impact on decreasing human productivity. This shows the importance and urgency of preventing and overcoming depression in Indonesian society. Chatbot as an implementation of Artificial Intelligence (AI) that allows user interaction with computers as if the user is communicating with humans. Early detection through chatbots with question answering technology has the potential to improve mental health and reduce depression.

In this final project, a question answering system on a chatbot using Bidirectional Encoder Representations (BERT). BERT is an algorithm designed to be pre-trained in training to understand language in order to understand the context of a word in a sentence. The system that has been designed produces a chatbot that can respond appropriately to users, to obtain keywords that can be used to predict the possibility of minor depression, middle depression, or major depression. The system using the Python programming language, with Google Colab to design the chatbot system.

The performance parameters used in this final project are accuracy, precision, recall, and F1-Score. To determine the overall performance of the system that has been designed how accurate it's in answering question on chatbots. It takes testing on the parameters to get the best Adam optimizer results, with a learning rate value of 2e-5, epoch 25, and batch size 32. From the test results, the system gets good accuracy performance results of 98% and the values of the macro average on the parameter precision, recall, and F1-Score respectively are 99%.

Keywords: *BERT, depression, chatbot.*