

In the digital era like today, the internet is the main source for humans to get a source of information. However, on the other hand, there are many crimes that occur on the internet, namely by the existence of various attacks that can harm users and benefit the hackers. Some of these attacks, for example, are DoS and heartbleed. DoS can shut down a system server by flooding a stream of fake traffic continuously until the server is unusable. Heartbleed can encrypt data such as usernames or passwords by exploiting security holes in the memory server. In this final project, a research is carried out using a hidden Markov model algorithm to detect DoS and Heartbleed attacks on the 2017 CIC-IDS data set. Performing data set feature selection with K-Means to obtain data training and data testing. From the test data and training data, the hidden Markov model algorithm is used for the classification process. The final result of the classification uses a confusion matrix to get the accuracy calculation results.

Keywords: cyber attack, hidden markov model, heartbleed, DoS, CIC-IDS 2017, confusion matrix, k-means