DETECTION OF DDoS ATTACKS USING MACHINE LEARNING

Name : M. Hasrul

Student Id Number : 6404201011

Supervisor : Jaroji, M.Kom

ABSTRACT

In the rapid development of information technology, network security has become a crucial issue with the increasing number of users and threats, especially Distributed Denial of Service (DDoS) attacks. According to Cisco's predictions, global DDoS attacks are expected to increase by 15.4 million in 2023. This research proposes the development of a Machine Learning model using the Decision Tree algorithm, proven to quickly and accurately detect DDoS attacks. The model is constructed using the APA_DDoS dataset, aiming to build an efficient and effective system for recognizing DDoS attack patterns based on Machine Learning and providing notifications via Telegram. The primary goal is to establish a system that efficiently and effectively identifies DDoS attack patterns using Machine Learning with the Decision Tree algorithm, benefiting both individuals and industries in detecting DDoS attacks. The research results in an efficient and effective detection system for recognizing DDoS attack patterns using Machine Learning with the Decision Tree algorithm, capable of accurately identifying DDoS attack patterns and providing a swift response by sending Telegram notifications. The model evaluation shows perfect results with accuracy, precision, recall, and F1 score reaching 100%, indicating that the model can predict every class very well.

Keywords: DDoS, Machine Learning, Decision Tree