Abstract

Intrusion Detection System (IDS) acts as a detector of various types of attacks on computer networks. IDS identifies attacks based on network data classification. The large data classification leads to long processing times and low accuracy results. To solve this problem, this research uses a wrapper feature selection to reduce the features of the data. Wrappers work on datasets that have been processed at the preprocessing stage. The use of a Recursive Feature Elimination (RFE) type wrapper aims to feature datasets selected by recursively and then sorted by rank, then selected features are applied to data train and test data. To optimize the classification, this research uses Support Vector Machine (SVM) classification. Furthermore, this study also tunes the classifier parameters and the random_state wrapper parameter. The goal is to improve accuracy detection. Based on the result of research, the result of accuracy using wrapper is 81.275%. The result is higher than the method without wrapper that is 46.027%. This shows that wrapper and tuning parameters are capable of improving accuracy detection.

Keywords: intrusion detection system, semi supervised, wrapper, feature selection, nsl-kdd