Intrusion Detection for Real-Time Network Dataset Using Machine Learning: A Review Approach

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Abstract: *The current paper is related to the application of the machine learning approach for intrusion detection for real-time datasets. This is a review article. Some important papers are chosen to identify research gaps for intrusion detection for real-time datasets. In today's world, computer network and virtual machine security is critical. For network security or to restrict unwanted access by internal or external users, many designs have been proposed. Several techniques have previously been created to identify malicious activities on target computers. When an external user generates harmful behavior and gains illegal access to target machines, this is referred to as malicious actions or intruder behavior. A variety of machine learning and soft computing approaches have been developed to detect activities in real-time network log audit data. The most commonly used data sets to identify the Intruder on benchmark data sets are KKDDCUP99 and NLSKDD. In this study, we suggested employing machine learning methods to identify intrusions. Two distinct strategies, signature detection, and anomaly detection have been proposed. In the experimental study, SVM, Nave Bayes, and ANN algorithms are demonstrated with diverse data sets, and system performance in a real-time network environment is demonstrated.*

Keywords: Intrusion Detection System, Network security, Naïve Bayes, SVM, Artificial Neural Network, KDDCUP99

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