Abstract

In today’s world, the internet is an important part of our life. People cannot think of a single moment without the existence of the internet. With the increasing involvement of the internet in our daily life, it is very important to make it secure. Now to make communication system more secure there is a need of Intrusion Detection Systems which can be roughly classified as anomaly-based detection systems and signature-based detection systems. In the paper we presents a simple and robust method for intrusion detection in computer networks based on Principal Component Analysis (PCA) where each network connection is transformed into an input data vector. PCA is used to reduce the high dimensional data vector to low
dimensional data vector and then detection is done in less dimensional space with high efficiency and low use of system resources. We have used KDD Cup 99 dataset for experiment and result shown that this approach is promising in terms of detection accuracy. It is also effective to identify most known attacks as well as new attacks. However, a frequent update for both user profiles and attacks databases is crucial to improve the identification rates.

References


Index Terms

Computer Science

Network Security
Keywords
Network Security  Pca  Nids  Kdd Data Set