Abstract

High level security maintenance is very important nowadays for safe and trusted communication over the internet but due to enormous interconnectivity this task has become very complex. Threat of intrusions and misuses is always present in communication over the internet and any other network. These intrusions are occurring at higher rates than before and additionally existing security products are not able to detect these. Neural networks can help in this problem and not only can the known but unknown intrusions also be detected with certain efficiency. Due to high error rate and low detection rate BP algorithm’s efficiency is not unto mark. So this research has used a Gradient based BP algorithm for detection of intrusions considering all 41 inputs from dataset. It shows how learning with Gradient-based BP algorithm and testing it in real time can improve efficiency. The desired results that are low false detection and high accuracy are achieved with this and for better results KDD99 datasets are also filtered.

Index Terms

Computer Science Algorithms
**Keywords**

Network Security, Intrusion Detection, Neural Networks, Back Propagation, Gradient.