Abstract

IDS or intrusion detection systems are well known network anomaly detection technique in network technology. According to the IDS, it is used for monitoring and analysis of network traffic. By analyzing the network traffic data it observe the behavior of network and report if any anomaly in network behavior occurred. In addition of this technology is also helpful for discovering any attack condition in network. Therefore the proposed work is intended to design and develop an accurate analysis method, which works on KDD CUP 99’s Data. The proposed work first involve the feature selection technique using the correlation coefficient based technique and then the selected features are used for training and testing of three popular classifiers namely bays classifier, C4.5 decision tree and KNN algorithm. The experiments are performed using the k-fold cross validation technique. The experimental results shows the KNN and C4.5 decision tree algorithm produces similar accuracy and higher as compared to bays classifier. But the time consumption of the KNN classifier is 10 times higher than the C4.5 and Bayes classification techniques.
References

3. Han, Jiawei, Jian Pei, and Micheline Kamber, Data mining: concepts and techniques, Elsevier, 2011.
9. AUTHORS PROFILE
10. ASHOK PANWAR received has Three Year Polytechnic Diploma in Computer Science and Engineering, B.E. / B. Tech. and M.E. / M. Tech. Degree both in Computer Science and Engineering. He is Currently working as an Technical Officer in ECIL (Electronics Corporation of India Limited), Hyderabad, India, against the site requirements of NPCIL (Nuclear Power Corporation of India Limited), Tarapur, Mumbai, Maharashtra, Working in ACS (Access Control System) Department, as well as Research Scholar, Ex. Employee in Defence Research & Development Organisation (DRDO) in Defence Scientific Information & Documentation Centre (DESIDOC) Lab, Govt. of India, Ministry of Defence, in Department of Knowledge Management Division (KMD), Metcalfe House, Near Civil Lines, New Delhi, Delhi-110054, India. He has one year of Teaching Experience in Computer Networking. His area of Main Research Interest in Ad-hoc Networks, Network Attacks, MANET, Data Mining & Network Security. He has guided 15 Graduate Students. He has published 01 paper in international journal. He has attended One National Level Conference. He has attended Two National Level Event’s of Microsoft Dream Spark Yatra at IET - DAVV, Indore. He has attended Three Day’s CEP on Information Security in Web Based Services organised by DRDO (DESIDOC), New Delhi. He has attended Workshop on DRDO E-journals Service organised by DRDO (DESIDOC), New Delhi. He has attended Five Day’s National Level Workshop on Android Security System. He has attended Two Day’s National Level Workshop in NS2 (Network Simulator and Design 2) at MITM, Indore and attended Three Day’s National Level Seminar.
11. D. SRINIVASA RAO M.Tech, Ph.D is working as an Associate Professor in the Department of Computer Science & Engineering at Medi-Caps University, Indore, Madhya
An Accurate IDS design using KDD CUP 99’s Dataset

Pradesh, India. He has 22 years of teaching experience. His area of interest in Adhoc Networks, Distributed Systems, Network Security & Image Processing. He has guided more than 60 Post Graduate Students. He has published 2 books and 18 papers in international journals. He presented 2 papers in National Conferences, 1 paper in International Conference and has attended 37 National Workshops / FDP / Seminars etc. He is a life member of Professional Society like ISTE.

12. G. SRIRAM M.Tech, Ph.D is working as an Assistant Professor in the Department of Computer Science, School of Distance Education, Andhra University, Visakhapatnam, India. He has 13 years of teaching experience. His area of interest in Adhoc Networks, Data Mining & Networks Security. He has guided 25 Graduate Students. He has published 5 papers in international journals. He has attended 10 National Workshops / FDP / Seminars etc.

Index Terms

Computer Science Information Sciences

Keywords

KDD CUP dataset, Classification, data mining, network security, IDS design