# Implementation of Machine Learning Techniques applied to the Network Intrusion Detection System

**Abstract:**

An immense amount of data is being generated every second due to technological advancement and reforms. Social networking and cloud computing are generating a huge amount of data every second. Every minute data is being captured in the computing world from the click of the mouse to video people tend to watch generating an immediate recommendation. Everything a user is doing on the internet is being captured in different ways for multiple intents. Now it all ends up to monitor the system and network and, secure lines and servers. This mechanism is called Intrusion Detection System(IDS). Hacker uses multiple numbers of ways to attack the system which can be detected through a number of algorithm and techniques. A comprehensive survey of some major techniques of machine learning implemented on intrusion Detection was done where techniques based on kmeans, K-means with principal component analysis, Random Forest algorithm Extreme learning the ma-chine, techniques, classification algorithms such as Naive Bayes algorithm, Hoeffding Tree algorithm.Also, Accuracy Updated Ensemble algorithm, Accuracy Weighted Ensemble algorithm, Support Vector Machine, Genetic algorithm and Deep learning were studied. Now some of these algorithms are applied upon the NSLKDD data set and compared on the basis of their accuracy.