Abstract

Support Vector Machines (SVM) are the classifiers which were originally designed for binary classification. The classification applications can solve multi-class problems. Decision-tree-based support vector machine which combines support vector machines and decision tree can be an effective way for solving multi-class problems. This method can decrease the training and testing time, increasing the efficiency of the system. The different ways to construct the binary trees divides the data set into two subsets from root to the leaf until every subset consists of only one class. The construction order of binary tree has great influence on the classification performance. In this paper we are studying an algorithm, Tree structured multiclass SVM, which has been used for classifying data. This paper proposes the decision tree based algorithm to construct multiclass intrusion detection system.

Reference

- Pang-Ning Tan, Michael Steinbach, Vipin Kumar. Introduction to data mining. Pearson Education.

**Index Terms**

Computer Science  
Internet  
Security

**Key words**

Intrusion detection system  
support vector machine  
decision tree