Abstract

Support Vector Machines (SVM) is one of machine learning methods that can be used to perform classification task. Many researchers using SVM library to accelerate their research development. Using such a library will save their time and avoid to write codes from scratch. LibSVM is one of SVM library that has been widely used by researchers to solve their problems. The library also integrated to WEKA, one of popular Data Mining tools. This article contain results of our work related to complexity analysis of Support Vector Machines. Our work has focus on SVM algorithm and its implementation in LibSVM. We also using two popular programming languages i.e C++ and Java with three different dataset to test our analysis and experiment. The results of our research has proved that the complexity of SVM (LibSVM) is O(n^3) and the time complexity shown that C++ faster than Java, both in training and testing, beside that the data growth will be affect and increase the time of computation.
Time Complexity Analysis of Support Vector Machines (SVM) in LibSVM


Index Terms

Computer Science

Information Sciences
Keywords

SVM, LibSVM, C++, Java, WEKA, Data Mining