

## ABSTRACT

Data mining is a method to find useful information from dataset. One of the techniques in data mining is classification. Classification is widely used in the identification of diseases, biomedical engineering, etc. One of the algorithms used for classification is Support Vector Machine (SVM). The concept of a SVM is doing classification by maximizing hyperplane between class. SVM has many variations such as Least Squares Support Vector Machine (LS-SVM). Classification process takes a long time because the training data has many records and attributes. To overcome the problem of time the SVM and LS-SVM implemented using Graphic Processing Unit (GPU), so it can increase the speed of the computing process compared to using regular processor. Based on research about the performance of SVM using GPU as the research by Jesse Patrick Harvey stated that SVM with GPU  $89\times-263\times$  faster than SVM without GPU. Research by Jesse Patrick Harvey proved that SVM using GPU approach better performance than SVM without GPU. In this final project will discuss about comparison of accuracy and computation time of the algorithms that have been mentioned. The dataset used was taken from <http://ntucsu.csie.ntu.edu.tw/~cjlin/libsvmtools/datasets/binary.html>.

**Keywords:** Classification, SVM, LS-SVM, GPU