# Student Experiment Report

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| Student ID |  | School |  |
| Name |  | Major |  |

## Support Vector Machineinear

## Introduction

This experiment uses SVM to predict Iris dataset. The purpose is to improve students' practical problem-solving ability using SVM.

## Objective

(1) Help students understand the application of SVM in data science.

(2) Help students understand the principle of SVM.

(3) Help students utilize the third-party toolkit (*sklearn*) to achieve SVM.

## Related theories and knowledge

(1) The principle of SVM

(2) The application method of the SVM function in *sklearn*

## Experimental conditions and environment

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| Requirements | Content | Version | Remarks |
| **Programming language** | python | Above 3.6 |  |
| **Development environment** | Jupter | None |  |
| **Third-party toolkits/libraries/plugins** | sklearn | 0.23.1 |  |
| **Third-party toolkits/libraries/plugins** | numpy | 1.16.2 |  |
| **Other tools** | None | None |  |
| **Hardware environment** | Both desktop and laptop | None |  |

## Tasks

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| --- | --- | --- |
| **Number** | **Task** | **Task specific requirements** |
| **1** | Read in data | You can use the IRIS dataset that comes with Sklearn:’datasets.load\_iris()’. |
| **2** | Distinguish between training sets and test sets | You need to randomly select 70% of the total data set as the training set and 30% as the test set. |
| **3** | SVM | You need to build the SVM model and train it. |
| **4** | Predict | Predict the test data set and output the predicted value and accuracy. |
| **5** | analysis result | You need to adjust the hyperparameters, compare and analyze the experimental results, and reflect them in the experimental report |

## Results and Analysis

## Acquisitions and Thoughts

（1）

（2）

（3）