**MID-EXAM LAB REPORT**

**Topic: Iris Flower Prediction**

**Group#6**

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**Problem Statement:**

Predict the species of a new iris flower. Build a Model validate it and plot its accuracy.

**Background:**

In this project, the object is the Iris flower. The data set of Iris contains three different classes: Setosa, Versicolour, and Virginica. The designed recognition system will distinguish these three different classes of Iris.

**Project Objective:**

The current study aims to identify the type of iris flowers by using the dataset that prepared

in advance way by the expert biologists to study the flower types through some

measurements and statistics for each type using data mining techniques and neural network

classifiers

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**Machine learning model for predicting species:**

There are multiple data models for predicting the species but here we have use SVM.

**Support vector machine (SVM):**

Support vector machine classifier is one of the most popular machine learning [classification algorithm](https://dataaspirant.com/2016/09/24/classification-clustering-alogrithms/). Svm classifier mostly used in addressing multi-classification problems. which is used for Classification as well as Regression problems. However, primarily, it is used for Classification problems in Machine Learning.

**IRIS dataset:**

Iris dataset is having 4 features of iris flower and one target class.

**The 4 features are**

* SepalLengthCm
* SepalWidthCm
* PetalLengthCm
* PetalWidthCm

**The target class**

The flower species type is the target class and it having 3 types

* Setosa
* Versicolor
* Virginica

The idea of implementing svm classifier in Python is to use the iris features to train an svm classifier and use the trained svm model to predict the Iris species type. To begin with let’s try to load the Iris dataset. We are going to use the iris data from [Scikit-Learn package](http://scikit-learn.org/).

**Process Flow:**

**Create a Django Project:**

To start a new project, $ cd into the directory where you want to create the project, then type the following command,

**django-admin startproject irisprediction**

**Create a Django app:**

Django comes with a utility, that automatically generates the basic directory structure of the app, enabling us to focus on writing code rather than creating directories. Now create ap django app by the following command:

**Python manage.py startapp predict**

**Importing Csv File:**

First step is to read csv file of iris data set into the django and converting it into .py file.

**Edit Views.py file:**

The endpoint calls are directed to specific functions/classes in the views of our app. We edit views.py to insert the code for getting the prediction

**Editing urls.py**

Now that we have defined our views file, we need to create a URL and add it to the list urlpatterns in urls so as to be routed to views.

## Migrations and Super user:

## The next step is to make migrations and create a super user. [Migrations](https://docs.djangoproject.com/en/2.2/topics/migrations/) are Django’s way of propagating changes we make to our models.  [Super user](https://docs.djangoproject.com/en/1.8/intro/tutorial02/)is a user who can login to the admin site.

## Run Server:

## Now, we are all set to deploy our Machine Learning model on the local host. Run server by using the command,

## Python manage.py runserver

## Conclusion:

## The test set that was created was not used to build the model, but we do know the correct species for each iris in the test set. Therefore, we can make a prediction for each iris in the test data and compare it against its label — so we can know if the model is correctly predicting the label for a given flower. To measure how well the model works, we have obtain the accuracy .