# Department of Computing

# CS370: Artificial Intelligence

# Class: BSCS-8C

# Lab 03: Support Vector Machines

# Date: 12-03-2021

# Time: 10:00-1:00

# Instructor: Dr. Hashir Kiani

# Lab Engineer: Ms Rabbia Hassan

# Lab 03: Support Vector Machines

**Lab Task: Multi-Class Classification through SVMs**

In this lab, you are supposed to perform multi-class classification through Support Vector Machines. Data in excel files (both the training and test sets) are uploaded on LMS. In the said training and test data files, each row contains data about one instance of a plant category where four predictors/attributes are recorded for each plant (namely, leaf length, leaf width, flower length, and flower width), while “plant” is the target class which could be any one of the following at a time: “Arctica” or “Harlequin” or “Caroliniana”.

You are supposed to perform multi-class classification using SVMs. Use the training data to train your SVM Classifier. Then use the test data to check the accuracy of your classifier. Please submit your results in the form of an excel file which should contain the prediction for each example in test data.

**Note:** You are expected to perform the above-mentioned task using traditional SVMs. Off the shelf libraries like *Scikit-learn and LIBSVM* might be a useful resource during implementation. Feel free to use these-or any other suitable library you prefer.

**You might find the following link useful too**

<https://scikit-learn.org/0.21/modules/generated/sklearn.svm.SVC.html>

Deliverable:- Please submit a zip folder containing excel file of results and lab report (containing code and screenshots of output).