CS 557 STATISTICAL PATTERN RECOGNITION AND LEARNING
FALL 2016
ASSIGNMENT 6

DUE: Sunday November 27, 2016.

PROBLEM

1. Apply ridge regression in feature space and instance space to the spiral dataset. You also have to implement at least two kernels, polynomial and rbf for regression in instance space. Report the accuracy of these methods, as well as plot the results using the given script: *plotmultipleLabels.m*. Make sure that the two labels and errors are plotted as three different classes.
2. Apply kernel ridge regression to the scrambled OCR problem of previous assignment. State clearly how you would map the continuous predictions to multiple labels. You have to compare linear, polynomial and RBF kernels. The entries have to be submitted on kaggle at:
   https://inclass.kaggle.com/c/scrambled-ocr

   Optional: You could build 4 different models to cater for each class individually.
   Note: Mark all your new entries that use regression by placing an "reg" in front of their name.

Note: You can use Matlab's helper functions like load, sum, plot etc. but **NOT** the curve fitting functions provided by it. You have to write all the regression routines yourself.

TO SUBMIT

1. Make a submission of your code and soft copy of report on slate
2. Hard copy of a report which is **not more than two pages** long that shows results of your experiments on spiral dataset and forest fires. Present your results clearly using tables. You have to include your comments and conclusions in the report.

IMPORTANT

There is a strict policy against plagiarism and cheating. The penalty can be an F grade.