CPSC 535
Assignment 4: Pattern Recognition I: Character Recognition

The goal of this assignment is to develop a simple character recognition system. The system will be able to recognize digits in a single font.

Section 9.2 of Sonka, Hlavac and Boyle covers material on statistical pattern recognition.

1 The Data

The files for this assignment contain five images (**data00.tif** through **data04.tif**. Each is a gray-scale image showing the file name and 24 by 60 array of digits. There is also a text file corresponding to each of the images. The text files indicate what digits are found at each point in the array of digits in the corresponding image, i.e., ground truth. You can use these files as you see fit to develop and test your algorithm.

2 Your Program

Your program should work as follows:

myprog *image-file-name*

The output of your program should be a text file of the same format as the text files in ground truth text files. You can then quickly check the performance of your algorithm using the python script **check** provided.

The quality of your algorithm will be graded, in part, by checking it against five other images which you will not see in advance. Therefore it is essential that you divide the examples given to you into test and training sets so that you do not test on the training data.

3 Hand in

Hand in the following:

1. your code,
2. a written description of how your algorithm recognizes characters digits, and
3. a description and explanation of any salient observations you make during the development of the algorithm.

You will be graded on the quality of your code, the accuracy of digit recognition, and your written observations.