UNIVERSITY OF SOUTH FLORIDA

Project 3

Pattern Recognition

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In this project, we were given 4 datasets with ten classes (‘a’, ‘c’, ‘e’, ‘m’, ‘n’, ‘o’, ‘r’, ‘s’, ‘x’, ‘z’) each and also with ten samples for each class. We were expected to design four classifiers and train each classifier on Data Set A, and also use it to classify Data Set A and the three test sets B, C, and D

The 4 classifiers were trained by the following methods:

1. ***NN on the bitmaps of the samples***

In this classifier we selected the class whose element was closest based on the bitmap.

2. ***5-NN on the bitmaps of the samples***

In this classifier we selected the class whose maximums out of 5 closest elements were closest based on the bitmap.

3. ***NN on the eight moment features***

In this classifier we selected the class whose element was closest based on the 8 moments.

4. ***5-NN on the bitmaps of the samples***

In this classifier we selected the class whose maximums out of 5 closest elements were closest based on the 8 moments.

Result:

The result of the project is displayed in the table below:

Test Method	A	B	C	D
1	0	34	1	2
2	0	35	0	4
3	0	25	8	23
4	1	21	8	29