UNIVERSITÄT BERN INFORMATIK	KURS	TYP	BLATT	AUSGABE	
	ME	UA	1	HS 10	

Einführung in die Mustererkennung

Übungsserie 5

1 Exercise

In this Exercise, the reliability of the q-NN classifier from the programming exercise 1 shall be analyzed on an augmented test set.

a) Report the error rate on the augmented test set for a forced decision ($q = 1$).

b) Report the reliability on the augmented test set for $q = 3$ (for a decision, at least two patterns have to belong to the same class, if not: reject).

c) Report the reliability on the augmented test set for $q = 3$ (for a decision, at least two patterns have to belong to the same class, if not: reject).

State for each element the number of occurrences of the most frequent class when classifying.

Compute the recognition rate, the error rate, the rejection rate and the relyability for a), b), and c). Display the results in a table.

2 Exercise

I) Plot the line of the *reliability-reject*-curve for the three cases in Exercise 1 a), b), and c): $F = \frac{C}{C+D}$ as a function of $C + D$.

II) Plot the line of the *error-reject*-curve for the three cases in Exercise 1 a), b), and c): D as a function of $C + D$.

III) Comment, if the run of the curve makes sense.

Use the definition given in Fig. 7/3. The plotted curves consist of three points, one for each classifier from Exercise 1 a), b), and c). The training and test data as well as the class labels can be found of the web site.