

# **EPART Lab 2 Report**

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## Point 1

### Task:

Check the data, esp. the training set. Outliers can change significantly computed distribution parameters, which can dramatically reduce recognition quality. You can try here to compare *mean* and *median* values, plot histogram of individual features (*hist* function) ...

To remove a sample with known index *idx* use expression:

$$\text{train}(\text{idx}, :) = [] ;$$

### Results:

## Point 2

### Task:

Select two features (note that you have *plot2features* function supplied) and build three Bayes classifiers with different probability density computations (according to points 1-3 above). You should use equal *a priori* probabilities of 0.125.

### Results:

## Point 3

### Task:

Check how the number of samples in the training set influences the classification quality (you can take for example 10%, 25%, 50% of the whole training set).

Note: an appropriate part of the samples from the training set should be drawn independently from each class; because we introduce a random element, the experiment must be repeated (minimum 5 times) and report should contain averaged results (good practice is to include not only mean value but also a standard deviation).

Here you should implement *reduce* function, which leaves the appropriate part of each class. At this point, the reduction applies only to the training set.

**Results:**

## **Point 4**

**Task:**

Check how width of the Parzen window  $h_1$  influences the classification quality (note that this point has sense for Parzen classifier only).

**Results:**

## **Point 5**

**Task:**

**Results:**

## **Point 6**

**Task:**

**Results:**