INF 4300 2013
Classification 1
Exercises related to the lecture on 23.10.13

To give you a chance to catch up after mandatory exercise 1, this week's exercise set is quite small. Next week there will be a larger set of exercises. You will need to implement your own Gaussian classifier for mandatory exercise 2 ☺

Exercise 1. Matlab exercise for classification based on a univariate Gaussian classifier.

Step 1: Implement a Gaussian classifier using a single feature at a time.
For the algorithm, see last lecture foils for lecture 23.10.13

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For images = tm1.png to tm6.png do
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Step 2: Train the classifier

Train the classifier on the image tm*. (found at ~inf3300/www_docs/bilder) using the 4 classes defined in the mask file tm_train.png. You do this by computing the mean vector and variance for each class k for based on the pixels with class label k in the training mask file.

Classify all pixels in the image and display the result.

Compute the classification error by counting the number of misclassified pixels in the test mask tm_test.png.

Step 3: Find the best feature for classification using single features.
Compute the percentage of correctly classified pixels for each of the features alone, and find the accuracy for the best single feature.