

# 01 SVM

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28. 11. 2018

## 1 Assignment 01

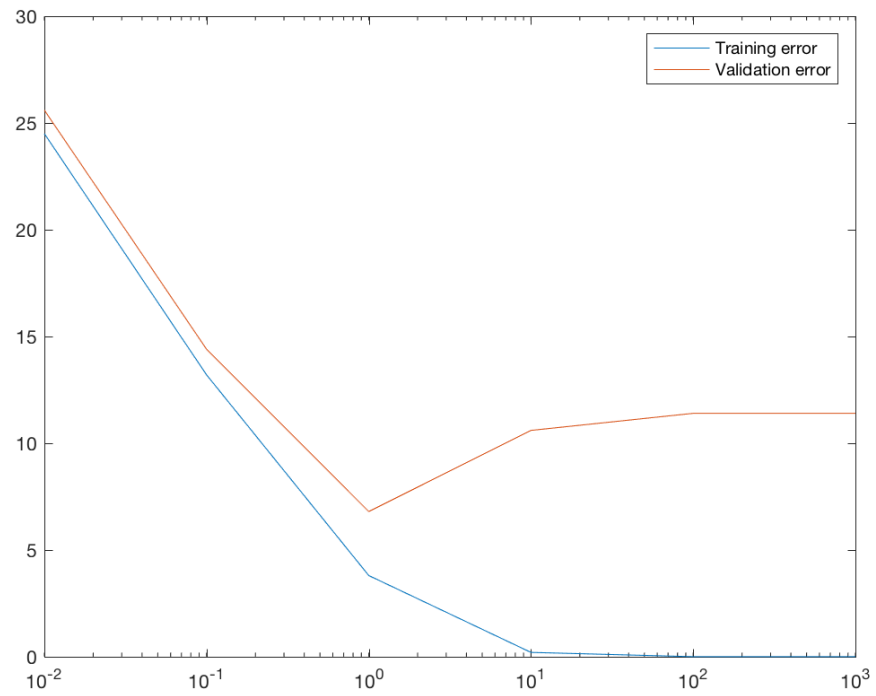


Figure 1: Training error vs. validation error

## 2 Assignment 02

As we can see from the plot above the minimal validation error was computed for  $C = 1$ . Test error for  $C = 1$  is 3.8 %.

Minimal value of  $\varepsilon$  is 0.0515 computed using this formula:

$$\varepsilon = (\ell_{\max} - \ell_{\min}) \sqrt{\frac{\log(2) - \log(1 - \gamma)}{2l}}$$

where

- $\ell_{\max}$  is the maximal value of the error, here 1,
- $\ell_{\min}$  is the minimal value of the error, here 0,
- $\gamma$  is the confidence probability, here 0.99,
- $l$  is number of training examples, here 1000.