Machine Learning II: Assignment
14 performance points (max),
email: PDF+code to jan.nagler@gmail.com
due: Tue, October 29, 2019

1. Based on the program developed in the lecture, implement a nonlinear
   Kernel analysis based on SVM for (a) polynomial kernels (poly) of at
   least 2 different degrees of your choice, and (b) for radial base functions
   (rbf). Apply the analysis to the breast cancer database, or a database
   of your choice. Study the classification performance in terms of suitable
   measures of your choice (e.g., accuracy, precision, recall, f1, k-folds) as a
   function of the hyperparameters γ (gamma) and degree (for polynomials),
   and gamma and penalty C for rbf kernels. It is on you if you want to use
   GridSearch, RandomSearch, hyperopt, or just to try a few combinations
   of the hyperparameters. Hint: Hyperopt may require you to install or
   update some libraries outside the Jupyter notebook. The program must
   end with the output "Hyper, hyper!".