Machine Learning II: Assignment #2
14 performance points (max),
email: PDF+code to jan.nagler@gmail.com
due: Wed, April 28, 2021

1. Kernels

   Based on the program developed in the lecture, implement a nonlinear
   Kernel classification based on SVM for polynomial kernels (poly) and for
   Gaussian Kernels, i.e., radial base functions (rbf). Apply the analysis to a
   database of your choice, using the python code as provided (or your own).
   Choose (and justify in a small text paragraph) two metrics to optimize for,
   such as accuracy, precision, recall, f1, f0.5, and f2 score, and determine
   which combo of hyperparameters maximizes each of the two scores you
   chose. It would be on you if you want to use GridSearch (as used in the
   provided code), RandomSearch, or other methods such as hyperopt. It is
   also on you to try other kernels of your choice. A 2-hyperparameter scan
   is sufficient. Of course, you are free to scan more parameters, if useful and
   interesting and doable for you. Do not forget to comment your choices
   and results in short take-home statements. Data can be found everywhere,
   e.g., at *https://archive.ics.uci.edu/ml/index.php*. Have fun. It will be.