

# Technical Report 7: Non-Linear SVM

## Classification with Kernels

The SVM classifier is trained by RBF kernel in LIBSVM. We take different values of  $\gamma$ , and report the results as follows. The classification accuracies on the

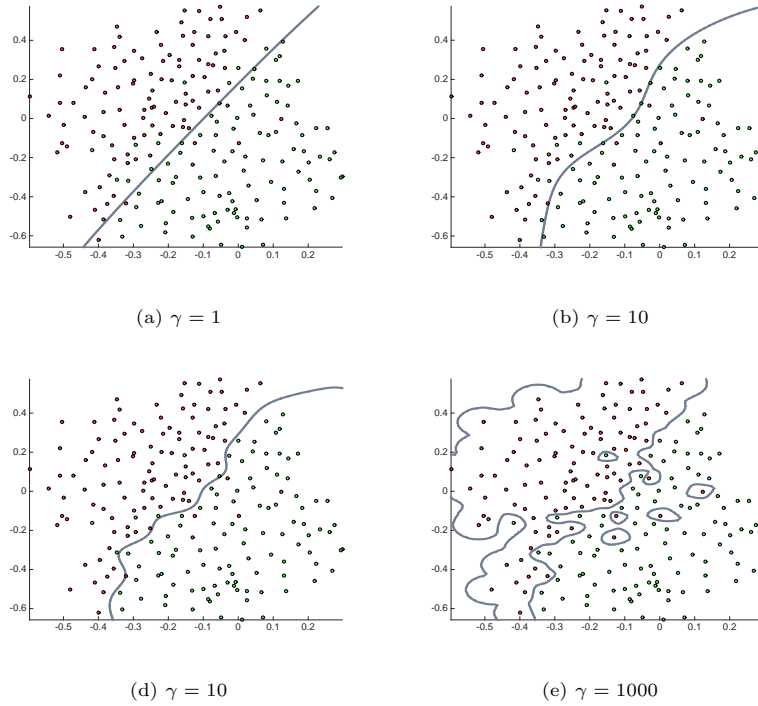


Figure 1: SVM-based classification results under different  $\gamma$ 's

training data for these models are 91.9%, 93.3%, 94.3%, and 100%, respectively. It is demonstrated that, with increasing  $\lambda$ , the classification boundary gets fitting to the training data, which results in higher classification accuracy, but with a sacrifice of overfitting.