

Pattern Recognition

Exercise 2 – Support Vector Machines

Parameter ranges used for Cross-Validation:

Kernel types: Linear, RBF

C-values: $\{2^1, 2^3, 2^5, \dots, 2^{15}\}$

γ -values: $\{2^{-10}, 2^{-8}, 2^{-6}, \dots, 2^2\}$

Average accuracy during Cross-Validation:

Linear kernel: 91.048%

RBF kernel: 64.737%

Optimized Parameters:

Linear kernel:

$$\gamma = 4$$

$$C = 2$$

Accuracy on test set: 92.814%

RBF kernel:

$$\gamma = 2^{-6}$$

$$C = 2^{13}$$

Accuracy on test set: 97.853%