

Advanced Computational Econometrics

Chapter 6: Kernel-based classification and regression

1 Classification

We consider again the `Expenditure` and `Default` dataset, and the following two problems :

1. Predict variable `Cardhldr` from the other variables (excluding `Default`, `Exp_Inc`, `Spending` and `Logspend`).
2. Predict variable `Default` for the customers who have been granted a credit card (i.e., `Cardhldr=TRUE`), taking all other variables as predictors.

For each of these two problems, fit linear and nonlinear SVM classifiers. Compare the performances to those of logistic regression classifiers.

2 Regression

1. Predict variable `medv` in the `Boston` dataset using linear/nonlinear SVR. Compare the results to those obtained in the exercise on Chapter 5 with linear regression techniques and random forests.
2. Apply SVR to the `movie` dataset.