Chapter 7 – Software manuals

Abstract

In this chapter, we present scripts and programs that accompany this book. Five MATLAB scripts regard simple examples related to supervised learning, that is, linear discrimination, the perceptron, support vector machines, and hidden Markov models. Seven scripts are devoted to unsupervised learning, such as K-means and fuzzy clustering, agglomerative clustering, density-based clustering, and clustering of patterns where features are correlated. These scripts provide a starting point for the reader, who can adjust and modify the codes with respect to proper needs. Besides, we provide sources and executables of programs that can be readily applied to larger and more complex datasets. These programs regard supervised learning using multilayerperceptron and support vector machines. KKAnalysis is a toolbox for unsupervised learning and offers various options of clustering and the use of self-organizing maps. The programs offer graphical user interfaces (GUI) to facilitate their use and create both graphical and alphanumeric output that can be used in further processing steps. The programs come along with real-world datasets that are also discussed in the example applications presented in various chapters of the book. Other propaedeutic material can be found in a folder called "miscellaneous."