Brief Introduction to Algorithmic Data Analysis in English

Esther Galbrun
Autumn 2021
Q3.1: Support vector machine of choice

What type of support vector machine best suits this dataset?

a) hard-margin linear SVM
b) soft-margin linear SVM
c) kernel SVM
Q3.2: Split space

Which of the three lines corresponds to the decision boundary of a hard-margin linear SVM?

(a)
(b)
(c)
Q3.3: Support vector machine of choice

What type of support vector machine best suits this dataset?

a) hard-margin linear SVM
b) soft-margin linear SVM
c) kernel SVM
Q3.4: Support vectors

The decision boundary and margin learnt by a soft-margin SVM for this dataset are drawn as gray dotted lines. Which of the following training data points are support vectors?
Q3.5: Prediction confidence

The decision boundary and margin learnt by a soft-margin SVM for this dataset are drawn as gray dotted lines. Rank the following test data points from the least to the most confident prediction.

(a) (b) (c) (d) (e) (f)