

Exercise 1.2 (Learning From Data — Abu-Mostafa et al.)

Problem Rubric

Suppose that a perceptron is used to detect spam messages. Each email is represented by the frequency of occurrence of keywords, and the output indicates whether the message is classified as spam.

(a)

Keywords that make the message more likely to be spam will receive large positive weights.

(b)

Keywords that make the message less likely to be spam will receive negative weights.

(c)

The bias parameter of the perceptron directly affects the classification threshold.