Computational Neuroscience 2013

BK4 - Exercises Chapter 6

Exercise 2

Consider gradient descend in a cost landscape define by: $E = a_1 x^2 + a_2 y^2$. Determine the learning parameter η such that the solution converges at equal rates in the x and y directions.

Exercise 3

Consider a linear perceptron (section 6.4) for the AND function.

- What are the optimal weights and threshold? What is the optimal cost?
- Show that $E > 0$ implies that the input patterns are linearly dependent.