

EE4285 Assignment 2

Please email your work to ekzmao@ntu.edu.sg by Friday 16 April 2021. Thanks.

Assume x_1 and x_2 are in the following range:

$$-2 < x_1 < 2$$

$$-1 < x_2 < 1$$

Design a multi-layer feedforward neural network to map the points inside the shaded area to 1, and the points in other areas inside the rectangle to -1. (a) Determine the architecture of the neural network; (b) learn the weights of the neural network (for the weights of the output layer neuron, the perceptron learning rule should be used in the assignment, and the learning rate c is set to 1, and the initial values of all weights are set to 1); (c) verify that the neural network designed can correctly perform the required mapping.

