

Data Mining, CSCI 347, Fall 2019
Perceptron, Oct. 7

1. Hand execute the Perceptron algorithm on the following data. Each time that a new prediction is made, show the new line of that prediction, if possible, in order to visualize how the algorithm is working.

x1	x2	class
3	0	0
-2	-3	1
-1	2	0
-3	0	1
2	-2	1
5	-2	0

The Perceptron algorithm refers to the first and second class. Let 0 be the first class and 1 be the second class. (We could also do this letting 1 be the first class and 0 the second class.)

Overall, if the sum > 0 predict class 1 (0); else predict class 2 (1)

Perceptron Algorithm

1. Set all weights to zero
2. Until all instances in the training data are classified correctly
 - For each instance I in the training data,
 - If I is classified incorrectly by the perceptron {
 - If I belongs to the first class,
 - add it to the weight vector
 - else,
 - subtract it from the weight vector

Perceptron:

