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1 import tensorflow as tf
2
3 x_data = [[1,1,1], [2,2,2], [3,3,3], [4,4,4], [5,5,5], [6,6,6], [7,7,7]]
4 y_data = [[0], [0], [0], [1], [1], [1], [1]]
5 X = tf.placeholder(tf.float32, shape=[None, 3])
6 Y = tf.placeholder(tf.float32, shape=[None, 1])
7 W = tf.Variable(tf.random_normal([3,1]))
8 b = tf.Variable(tf.random_normal([1]))
9
10 model = tf.sigmoid(tf.add(tf.matmul(X,W),b))
11 cost = tf.reduce_mean((-1)*Y*tf.log(model) + (-1)*(1-Y)*tf.log(1-model))
12 train = tf.train.GradientDescentOptimizer(0.01).minimize(cost)
13
14 prediction = tf.cast(model > 0.5, dtype=tf.float32)
15 accuracy = tf.reduce_mean(tf.cast(tf.equal(prediction, Y), dtype=tf.float32))
16
17 with tf.Session() as sess:
18     sess.run(tf.global_variables_initializer())
19     # Training
20     for step in range(10001):
21         cost_val, train_val = sess.run([cost, train], feed_dict={X: x_data, Y: y_data})
22         print(step, cost_val)
23     # Testing
24     h, c, a = sess.run([model, prediction, accuracy], feed_dict={X: x_data, Y: y_data})
25     print("WnModel: ", h, "WnCorrect: ", c, "WnAccuracy: ", a)
26
27
```