Laboratory Logbook

Introduction to Neural Computing and Deep Learning

MOD006650

1915205

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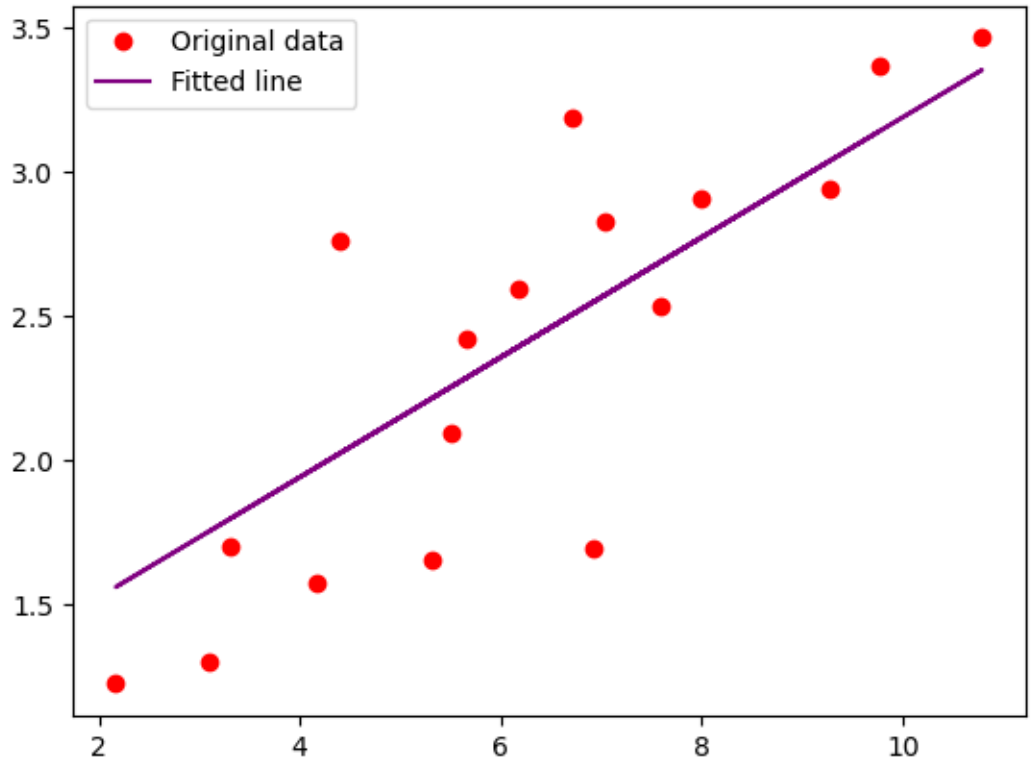
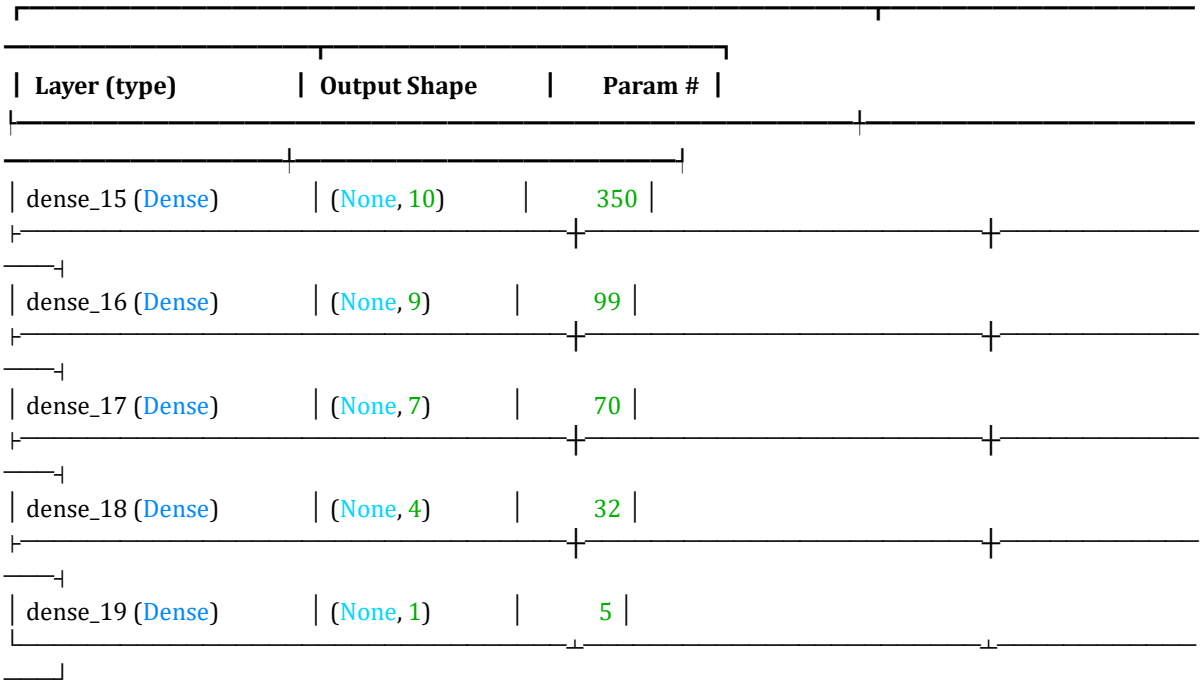
Lab 1



Lab 2

Accuracy = 0.953

Model: "sequential_3"



Layer (type)	Output Shape	Param #
dense_15 (Dense)	(None, 10)	350
dense_16 (Dense)	(None, 9)	99
dense_17 (Dense)	(None, 7)	70
dense_18 (Dense)	(None, 4)	32
dense_19 (Dense)	(None, 1)	5

Total params: 556 (2.17 KB)
Trainable params: 556 (2.17 KB)
Non-trainable params: 0 (0.00 B)
None

SID = 1915205
1915205/8964879 = 0.214
h2=h2 and h3=h4
x1= 0.214*23 = 4.922
x2= 0.214*32 = 6.848
x3= 0.214*56 = 11.984
x4= 0.214*48 = 10.272

Because Hidden Layer 1 = Hidden Layer 2
Hidden Layer 1:
0.2*4.922 = 0.984
0.2*6.848 = 1.37
0.2*11.984 = 2.397
0.2*10.272 = 2.0544
Sum of these: 0.984+1.37+2.397+2.0544 = 6.805
Applying ReLU (can't have negatives): 6.7925 > 0, and h1 = h2 = 6.7925 therefore all fine

Now because Hidden Layer 3 = Hidden Layer 4
Hidden Layer 3:
0.1*6.805 = 0.681
0.1*6.805 = 0.681
0.681+0.681 = 1.362
Applying ReLU: 1.362 > 0, and h3 = h4

Output Layer 1 = 0.5+2(0.3*1.362) = 1.317
Apply sigmoid: 1/(1 + e^(-1.317)) = 0.789

Output 1 = Output 2
Output Layer 1 = 0.5+2(0.3*1.362) = 1.317
Apply sigmoid: 1/(1 + e^(-1.317)) = 0.789

Lab 3

Lab 4

Lab 5

Lab 6

Lab 7

Lab 8

Lab 9

Lab 10

Lab 11

Lab 12

References