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|  |
| --- |
| import numpy as np |
|  |  |
|  | def forwardPass(inputs, weight, bias, activation = 'linear'): |
|  | w\_sum = np.dot(inputs, weight) + bias |
|  |  |
|  | if activation is 'relu' : |
|  | # ReLU Activation f(x) = max(0, x) |
|  | act = np.maximum(w\_sum, 0) |
|  | else : |
|  | # Linear Activation f(x) = x |
|  | act = w\_sum |
|  |  |
|  | return act |
|  |  |
|  | # Pre-Trained Weights & Biases after Training |
|  | W\_H = np.array([[0.00192761, -0.78845304, 0.30310717, 0.44131625, 0.32792646, -0.02451803, 1.43445349, -1.12972116]]) |
|  | b\_H = np.array([-0.02657719, -1.15885878, -0.79183501, -0.33550513, -0.23438406, -0.25078532, 0.22305705, 0.80253315]) |
|  |  |
|  | W\_o = np.array([[-0.77540326], [ 0.5030424 ], [ 0.37374797], [-0.20287184], [-0.35956827], [-0.54576212], [ 1.04326093], [ 0.8857621 ]]) |
|  | b\_o = np.array([ 0.04351173]) |
|  |  |
|  | # Initialize Input Data |
|  | inputs = np.array([[-2], [0], [2]]) |
|  |  |
|  | #Output of Hidden Layer |
|  | h\_out = forwardPass(inputs, W\_H, b\_H, 'relu') |
|  |  |
|  | print('Hidden Layer Output (ReLU)') |
|  | print('================================') |
|  | print(h\_out, "\n") |
|  |  |
|  | # Output of Output Layer |
|  | o\_out = forwardPass(h\_out, W\_o, b\_o, 'linear') |
|  |  |
|  | print('Output Layer Output (Linear)') |
|  | print('================================') |
|  | print(o\_out, "\n") |
|  |  |
|  | """[[ 2.96598907] |
|  | [ 0.98707188] |
|  | [ 3.00669343]]""" |