Course <u>Progress</u> <u>Dates</u> <u>Discussion</u>

★ Course / Unit 3 Neural networks (2.5 weeks) / Project 3: Digit recognition (Part 2)



Resources

Project due Nov 5, 2020 05:29 IST Completed

Now fill in the code for the function predict, which will use your trained neural network in order to label new data.

You will be working in the file part2-nn/neural nets.py in this problem

Implementing Predict

5.0/5.0 points (graded)

Available Functions: You have access to the NumPy python library as <code>np</code>, <code>rectified_linear_unit</code> and <code>output_layer_activation</code>

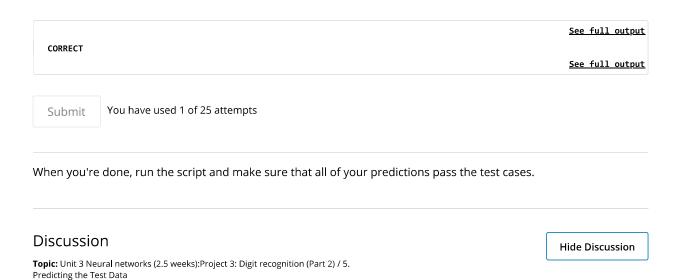
Note: Functions rectified_linear_unit_derivative, and output_layer_activation_derivative can only handle scalar input. You will need to use rectorize to use them

```
1 class NeuralNetwork(NeuralNetworkBase):
 3
      def predict(self, x1, x2):
 4
 5
          input_values = np.matrix([[x1],[x2]])
 6
 7
          # Compute output for a single input(should be same as the forward propagation in training)
 8
          hidden_layer_weighted_input = self.input_to_hidden_weights.dot(input_values) + self.biases# TODO
9
          ReLU_vec = np.vectorize(rectified_linear_unit)
          hidden_layer_activation = hidden_layer_activation = ReLU_vec(hidden_layer_weighted_input)# TODO
10
11
           output = self.hidden_to_output_weights.dot(hidden_layer_activation)# TODO
12
          activated_output = output_layer_activation(output)# TODO
13
14
          return activated_output.item()
15
```

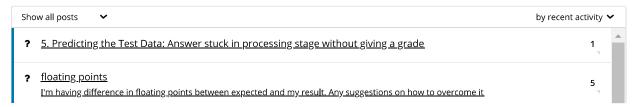
Press ESC then TAB or click outside of the code editor to exit

Correct

Test results



Add a Post



? [STAFF] Processing for a long time Processing for a long time and not completing. How long to wait? Any idea?	18
Project grader and questions I have had issues with the grader and have failed so far to get this relatively simple exercise correct after many trials. I feel I and	2 n eithe
Switch this exercise with the previous It seems that this exercise could be framed as a helpful intermediate step for the previous exercise. After working through the	previ
✓ Testing locally How can i test this function locally?	4
? [Staff] Need help to track down the error in my code Strangely my answer seems to be off by a multitude of 3 but it returns the correct values when I run it locally. At least if i under	2 rstand
Processing in grader would never complete because of way I was using np.vectorize() Grader never completed if I did this. vrelu = np.vectorize(rectified linear unit) hidden layer activation = vrelu(hidden layer week)	3 eighte
Getting an error 'input_to_hidden_weights' is not defined Lam getting this error. It seems the input weights variable is not available/visible to the testing program. Any help will be great	4 <u>ly app</u>
Incorrect result with random network params I've passed the other tests. But in the "Testing random datapoint predictions near a random line, with random network param	5 eters"
ValueError: can only convert an array of size 1 to a Python scalar What does it mean?: return activated output.item() ValueError: can only convert an array of size 1 to a Python scalar	2
@Staff, need a hint. Stuck at "Point 11 failed to be predicted correctly" Hi Staff, I believe my program is correct. Please give me some hint where I am wrong. My predicted value is 6 which does not read the staff.	5 natch
[Staff]: Grader referencing the old submission. Hi Staff, Initially i have used max(0,x) in the rectified linear)unit in activation function and grader had accepted it as correct. No	3 ow in t
Ctaffi Cubmitting Error	

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