3. Activation Functions

The first step is to design the activation function for each neuron. In this problem, we will initialize the network weights to 1, use **ReLU** for the activation function of the hidden layers, and use an identity function for the output neuron. The hidden layer has a bias but the output layer does not. Complete the helper functions in `neural_networks.py`, including `rectified_linear_unit` and `rectified_linear_unit_derivative`, for you to use in the `NeuralNetwork` class, and implement them below.

You will be working in the file `part2-nn/neural_nets.py` in this problem

Rectified Linear Unit

0.0/2.0 puntos (calificable)
First implement the ReLu activation function, which computes the ReLu of a scalar.

Note: Your function does not need to handle a vectorized input

Available Functions: You have access to the NumPy python library as np

```
def rectified_linear_unit(x):
    """ Returns the ReLU of x, or the maximum between 0 and x."""
    # TODO

```

Presione ESC y después TAB o haga clic afuera del editor de código para salir

Sin Responder

Enviar   Ha realizado 0 de 20 intentos

Taking the Derivative

0.0/2.0 puntos (calificable)

Now implement its derivative so that we can properly run backpropagation when training the net. Note: we will consider the derivative at zero to have the same value as the derivative at all negative points.

Note: Your function does not need to handle a vectorized input

Available Functions: You have access to the NumPy python library as np

```
def rectified_linear_unit_derivative(x):
    """ Returns the derivative of ReLU."""
    # TODO

```

Presione ESC y despues TAB o haga clic afuera del editor de código para salir

Sin Responder

Enviar Ha realizado 0 de 20 intentos

Discusión

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Tema: Unit 3 Neural networks (2.5 weeks):Project 3: Digit recognition (Part 2) / 3. Activation Functions

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[STAFF] test.py
Is there a test.py file for part 2? I seem not to find it. Thanks in advance!
12

Hint:: I don't even know where to start from and what to implement?
Dear All: I seem completely stuck with what needs to be implemented here? I am not able to ...
3

[STAFF] can we call our previously implemented function?
I tried to call rectified_linear_unit and I got the error: <br /> NameError: name 'rectified_linear...
2

[staff] rectified_linear_unit_derivative(x) seems to be prefering 1 to 1.0 as output
I got a red cross when my function returned 1.0, it was accepted with 1 though.
14

☑ Derivative of ReLU at 0
Since the left and right derivative of ReLU aren't equal, the derivative at 0 is undefined, so ho...
6

? how to use np functions for taking derivatives
I did not use numpy at all since it is clear what the derivative is in this case. but curious how t...
6

np.where will cause error in second part.
Because `np.array != int`, the grader will (unfortunately) mark test cases as wrong if you use ...
10

[Staff] Due date extension
Please extend due date for Project 3 as many of us have to submit Homework for Probability ...
1

How to test the input type

If you're planning on trying to avoid use of np.vectorize (or the PyTorch equivalent), you may ... 2

Community TA