THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, DC

Machine Learning II
DATS 6203
Date: *Nov-05-2018*

Quiz 4

- No Credit for Answers Without Work (Showing All Steps).
- Show All of Your Steps, Neatly and in Order

HW5:

Write a Python script to implement the backpropagation algorithm for a $1 - S^1 - 1$ network. Write the program using matrix operations, as in Eq. (11.41) to Eq. (11.47).

$$g(p) = e^{-abs(p)} \times sin(\pi p) \text{ for } -3 \leq p \leq 3$$

E.1:

i. Write down equations of forward propagation and backward propagation for HW5.

ii. Then write down a pseudo code for your HW5 which explains the process of your code.

iii. Use PyTorch to solve HW5 again. On this step you just need to use torch tensor data type.

iv. Use nn module and redo step iii.

Solution