Unit 6 - Week 5

Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-04, 23:59 IST.

1) The derivative of $\sigma(x)$ is *1 point*

- $(1 - \sigma(x))$
- $\sigma(x)(1 - \sigma(x))$
- $\frac{1}{1 + e^{-x}}$
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
$\sigma(x)(1 - \sigma(x))$

ANN Info ***Use the data given below to answer questions 2-4, 9,10.***

There are 4 words in the vocabulary and each one of them is represented by a one-hot vector. The ANN uses the one-hot vector as the feature vector in the input layer. There is no bias in this ANN. What is the net activation of the hidden layer corresponding to the 3rd word in the vocabulary, if the weights connecting the input layer and the hidden layer are given as below:

$$\mathbf{W}^T = \begin{pmatrix} 0.1 & 0.7 & 0.3 & 0.11 \\ 0.4 & 0.3 & 0.01 & 0.5 \end{pmatrix}$$

2) The size of the hidden layer is 4 *1 point*

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

3) What is the net value ($\mathbf{z}$) of the hidden layer? *1 point*

- [0.11 0.5]
- [0.3 0.11]
- [0.3 0.01]
- [0.7 0.3]

No, the answer is incorrect.
Score: 0

Accepted Answers:
[0.3 0.01]

4) What is the value of $\mathbf{h}$ rounded to 2 decimals, if $\mathbf{h} = \sigma(\mathbf{z})$ *1 point*

- [0.57 0.50]
- [0.53 0.62]
- [0.67 0.57]
- [0.53 0.60]

No, the answer is incorrect.
Score: 0

Accepted Answers:
[0.57 0.50]

5) In the CBOW ANN Model, context words are predicted *1 point*

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

6) In the Skip-Gram ANN Model, context words are input as feature vectors *1 point*

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

7) In Skip-Gram and CBOW ANN models, the input layer size is equal to the output layer size *1 point*

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

8) In the word2vec model, posterior probability of words in the vocabulary are obtained as the predicted output *1 point*

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

9) What would be size of the output layer for the word2vec model, if the information given above (**ANN Info**) is used in designing the network? *1 point*

- 2
- 3
- 4
- Can be of any size

No, the answer is incorrect.
Score: 0

Accepted Answers:
4

10) Consider the following information in addition to the information given above **(ANN Info)**. *1 point*

$$V^T = \begin{pmatrix} 0.2 & 0.5 \\ 0.1 & 0.003 \\ 0.01 & 0.05 \\ 0.11 & 0.12 \end{pmatrix}$$

Use the value of h obtained in question 4 to compute net output u. The value of $u = [0.36 \quad 0.07 \quad 0.03 \quad 0.52]$

- True
- False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False