Unit 8 - Week 7

Assignment 7

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

Due on 2020-03-18, 23:59 IST.

1) How many inputs are present in one LSTM unit at each time step? *1 point*

- 1
- 2
- 3
- 4
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:
3

2) Suppose you are given the task of building a named entity recognition model. Which of the following architectures should the model use? *1 point*

- many-to-many
- many-to-one
- one-to-many
- one-to-one

No, the answer is incorrect.
Score: 0
Accepted Answers:
many-to-many

3) For the task in Q2, what is the relation between T_x and T_y ? *1 point*

- $T_x = T_y$
- $T_x \neq T_y$
- Cannot say with the given information

No, the answer is incorrect.
Score: 0
Accepted Answers:
$T_x = T_y$

4) For bidirectional layer output, we take the sum of outputs of both forward and backward direction layers. True or false? *1 point*

- True
- False

No, the answer is incorrect.
Score: 0
Accepted Answers:
False

5) We will look at two methods to deal with the vanishing gradient problem - Long Short Term Memory (LSTM) and Gated Recurrent Unit (GRU). We learnt that LSTM utilizes gates to decide the carry of information within the network. GRU, a more recent method, employs a similar approach to tackle the vanishing gradient problem. What are the names of different gates in LSTM and GRU? (We acknowledge that GRU was not covered in the lectures. However, we encourage you to harness the power of the internet and read more on the topic to answer the question.) *1 point*

- LSTM: input gate, output gate, update gate
  GRU: update gate, reset gate
- LSTM: input gate, output gate, forget gate
  GRU: input gate, reset gate
- LSTM: input gate, output gate, reset gate
  GRU: forget gate, reset gate
- LSTM: input gate, output gate, forget gate
  GRU: update gate, reset gate

No, the answer is incorrect.
Score: 0
Accepted Answers:
LSTM: input gate, output gate, forget gate
GRU: update gate, reset gate

6) Your task is to perform text generation using RNN. Please visit this notebook for answering the questions 6 to 9. Follow the instructions given in the colab notebook, build the given model and train it for 10 epochs. What is the range of average loss of the trained model? *1 point*

- 0.0-0.7
- 0.7-1.2
- 1.2-2.0
- 2.0-2.5
- 2.5-3.0
- 3.0 or more

No, the answer is incorrect.
Score: 0
Accepted Answers:
1.2-2.0

7) Now train the same model for 30 more epochs (without re-initializing the weights). What is the range of average loss of the trained model? *1 point*

- 0.0-0.7
- 0.7-1.2
- 1.2-2.0
- 2.0-2.5
- 2.5-3.0
- 3.0 or more

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.7-1.2

8) If we change the `embedding_dim` to 256 and train the model for 10 epochs from the start again, what is the range of average loss of the trained model? *1 point*

- 0.0-0.7
- 0.7-1.2
- 1.2-2.0
- 2.0-2.5
- 2.5-3.0
- 3.0 or more

No, the answer is incorrect.
Score: 0
Accepted Answers:
1.2-2.0

9) Train the same model for 10 more epochs (`embedding_dim` = 256) (without re-initializing the weights). What is the range of average loss of the trained model? *1 point*

- 0.0-0.7
- 0.7-1.2
- 1.2-2.0
- 2.0-2.5
- 2.5-3.0
- 3.0 or more

No, the answer is incorrect.
Score: 0
Accepted Answers:
1.2-2.0

10) It looks like the model is not able to generate meaningful text. Possible improvements can be: *1 point*

- [ ] Use word-level generation
- [ ] Replace LSTMs with GRUs
- [ ] Add more RNN layers
- [ ] Increase Learning rate
- [ ] Increase embedding dimensions

No, the answer is incorrect.
Score: 0
Accepted Answers:
Use word-level generation
Add more RNN layers
Increase embedding dimensions