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Week 12: Assignment 12

The due date for submitting this assignment has passed.

Due on 2022-10-19, 23:59 IST.

Assignment submitted on 2022-10-19, 18:43 IST

1) Consider the task of generating a caption for a given image. Which of the following model would you choose to encode the image and decode the caption respectively? ***1 point***

- RNN, RNN
- CNN, CNN
- RNN, CNN
- CNN, RNN

Yes, the answer is correct.
Score: 1

Accepted Answers:
CNN, RNN

2) Consider the textual entailment problem, where the objective is to predict the hypothesis given a premise. Pick out the models you choose to encode and decode the sequence of words. ***1 point***

- RNN, RNN
- CNN, CNN
- RNN, CNN
- CNN, RNN

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Yes, the answer is correct.
Score: 1

Accepted Answers:
RNN, RNN

3) Consider the task of Image Question Asnwering, where the input consists of an image and a question and the output is a finite word from a vocabulary. What is the model that can be used in the encoder? ***1 point***

- Combination of two CNNs
- Combination of two RNNs
- Combination of a CNN and RNN
- RNN

Yes, the answer is correct.
Score: 1

Accepted Answers:
Combination of a CNN and RNN

4) Consider the task of Video captioning, where the input is a video and output is the caption. Which of the following is the correct equation for the encoder? ***1 point***

- $h_t = RNN(h_{t-1}, CNN(x_{it}))$
- $h_t = CNN(h_{t-1}, RNN(x_{it}))$
- $h_t = RNN(h_{t-1}, RNN(x_{it}))$
- $h_t = CNN(h_{t-1}, CNN(x_{it}))$

Yes, the answer is correct.
Score: 1

Accepted Answers:
$h_t = RNN(h_{t-1}, CNN(x_{it}))$

5) Which of the following statements is True? ***1 point***

I. Encoder Decoder model can be made more expressive by adding an “attention” mechanism
II. Plotting the attention weights as a heatmap helps to check if the attention model learns something meaningful.

- I only
- II only
- Both
- None

Yes, the answer is correct.
Score: 1

Accepted Answers:
Both

6) Given the first seven words of a sentence, our model has to predict the next word for a Autocompletion task. Which of the following is the output at every timestep? ***1 point***

Probability of that i_{th} word in the vocabulary

Probability distribution over the vocabulary

Probability of the next letter

Probability of the next word

Yes, the answer is correct.
Score: 1

Accepted Answers:
Probability distribution over the vocabulary

7) Consider the Language modelling problem, What is the size of the vector, $softmax(V_{s_t} + c)$ in the equation, $P(y_t|y_1^{t-1}) = softmax(V_{s_t} + c)_j$? **1 point**

number of words in the vocabulary

length of the n^{th} word in the vocabulary

length of the longest word in the vocabulary

length of the shortest word in the vocabulary

No, the answer is incorrect.
Score: 0

Accepted Answers:
number of words in the vocabulary

8) What should be the decoder used for the following: **1 point**

I. Document Classification
II. Document Summarization

I - RNN
II- feedforward with softmax

I - feedforward with softmax
II - RNN

I - feedforward with softmax
II-CNN

I - CNN
II - Feedforward with softmax

Yes, the answer is correct.
Score: 1

Accepted Answers:
I - feedforward with softmax
II - RNN

9) The Third convolutional layer of VGGNet is a $56 \times 56 \times 256$ size feature map. If you are asked to design a encoder-decoder model with attention mechanism then how many locations will the model have to learn to attend to? **1 point**

196

784

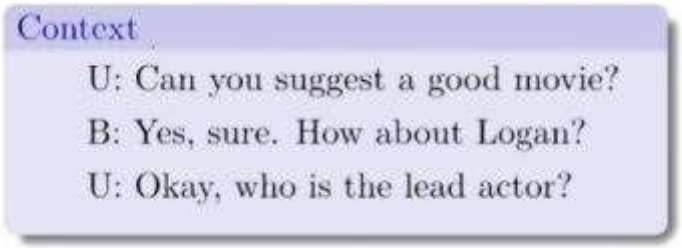
256

- 3136

Yes, the answer is correct.
Score: 1

Accepted Answers:
3136

10) Consider a dialog between a User and a Bot as given below. Here, the objective is to predict the response for this context.What is the encoder for given task? ***1 point***



- Hierarchical RNN
- Hierarchical CNN
- Sequence of RNNs
- Sequence of CNNs

Yes, the answer is correct.
Score: 1

Accepted Answers:
Hierarchical RNN