Congratulations! You passed!

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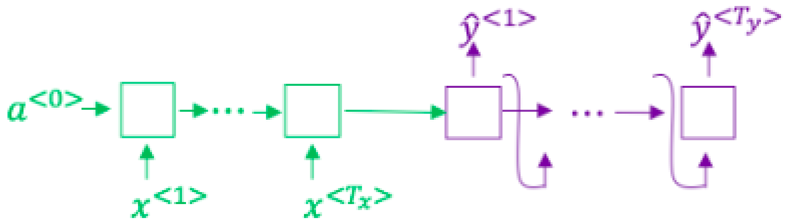
Go to next item

1. Consider using this encoder-decoder model for machine translation. **1 / 1 point**



This model is a "conditional language model" in the sense that the encoder portion (shown in green) is modeling the probability of the input sentence x.

Expand

Correct

2. In beam search, if you decrease the beam width B, which of the following would you expect to be true? Select all that apply.

1 / 1 point

Expand

Correct

Great, you got all the right answers.

3. In machine translation, if we carry out beam search without using sentence normalization, the algorithm will tend to output overly short translations. **1 / 1 point**

Expand

Correct

4. Suppose you are building a speech recognition system, which uses an RNN model to map from audio clip x to a text transcript y. Your algorithm uses beam search to try to find the value of y that maximizes $P(y \mid x)$. **1 / 1 point**

On a dev set example, given an input audio clip, your algorithm outputs the transcript $\hat{y} =$ "I'm building an A Eye system in Silly con Valley.", whereas a human gives a much superior transcript $y^* =$ "I'm building an AI system in Silicon Valley."

According to your model,

$$P(\hat{y} \mid x) = 1.09 * 10^-7$$

$$P(y^* \mid x) = 7.21 * 10^-8$$

Would you expect increasing the beam width B to help correct this example?

Expand

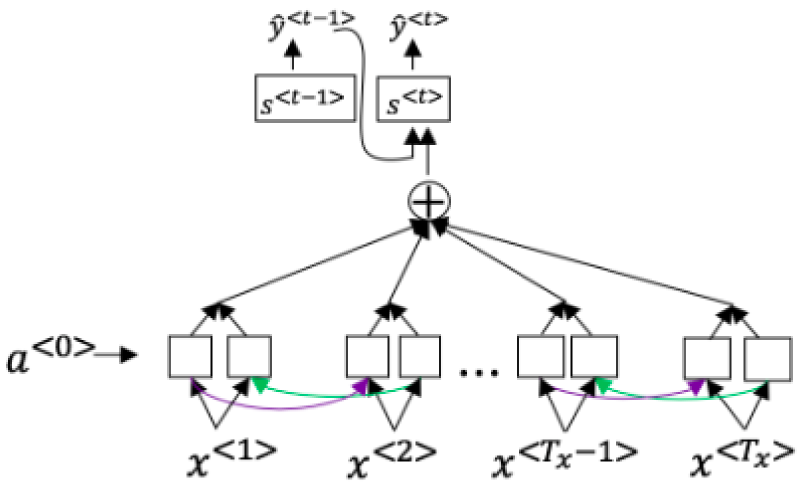
Correct

5. Continuing the example from Q4, suppose you work on your algorithm for a few more weeks, and now find that for the vast majority of examples on which your algorithm makes a mistake, $P(y^* \mid x) > P(\hat{y} \mid x)$. This suggests you should focus your attention on improving the RNN. **1 / 1 point**

Expand

Correct
$P(y^* \mid x) > P(\hat{y} \mid x)$ indicates the error should be attributed to the search algorithm rather than to the RNN.

6. Consider the attention model for machine translation. **0 / 1 point**



Further, here is the formula for $\alpha^{<t,t'>}$.

$$\alpha^{<t,t'>} = \frac{\exp(e^{<t,t'>})}{\sum_{t'=1}^{T_x} \exp(e^{<t,t'>})}$$

Which of the following statements about $\alpha^{<t,t'>}$ are true? Check all that apply.

Expand

Incorrect

You chose the extra incorrect answers.

7. The network learns where to “pay attention” by learning the values $e^{<t,t'>}$, which are computed using a small neural network: **1 / 1 point**

We can't replace $s^{<t-1>}$ with $s^{<t>}$ as an input to this neural network. This is because $s^{<t>}$ depends on $\alpha^{<t,t'>}$ which in turn depends on $e^{<t,t'>}$; so at the time we need to evaluate this network, we haven’t computed $s^{<t>}$ yet.

Expand

Correct

8. Compared to the encoder-decoder model shown in Question 1 of this quiz (which does not use an attention mechanism), we expect the attention model to have the least advantage when:

1 / 1 point

Expand

Correct

The encoder-decoder model works quite well with short sentences. The true advantage for the attention model occurs when the input sentence is large.

9. Under the CTC model, identical repeated characters not separated by the "blank" character (_) are collapsed. Under the CTC model, what does the following string collapse to? **1 / 1 point**

__c_oo_o_kk___b_ooooo__oo__kkk

Expand

Correct

10. In trigger word detection, if the target label for $x^{<t>}$ is 1: **1 / 1 point**

Expand

Correct

Target labels indicate whether or not a trigger word has been said.