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## Week 11 Quiz

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Q1

10.0/10.0 points (graded)

The higher the probability of the test corpus the more perplex is the language model.

True

● False ✓

Submit You

You have used 1 of 1 attempt

Q2

10.0/10.0 points (graded)

In calculating the probability of a word, a trigram model looks at the three previous words.

True

● False ✓

Submit

You have used 1 of 1 attempt

✓ With tools like Siri and Alexa Echo, using natural language is becoming increasingly common ✓
Learning from text is a low hanging fruit because human language is so simple
✓ Language is difficult to model in Al ✓
Submit You have used 1 of 1 attempt
Answers are displayed within the problem
Q4 10.0/10.0 points (graded)
There has been significant progress in machine translation over the last decade, because statistical models were trained to learn how to translate from a very large dataset of good quality translations.
statistical models were trained to learn how to translate from a very large dataset of good
statistical models were trained to learn how to translate from a very large dataset of good quality translations.
statistical models were trained to learn how to translate from a very large dataset of good quality translations.   Yes    Yes

10.0/10.0 points (graded)

Text classification uses m-estimate of the probabilities: $p(w_k c_j) = rac{n_k + 1}{n_j +   ext{Vocabulary} }$ .
The use of m-estimate is a smoothing technique.
● Yes ✔
O No
Submit You have used 1 of 1 attempt
Q6 10.0/10.0 points (graded) The idea behind bigram models is to look only one word in the past. That is, approximate the probability $P(w_k w_1\cdots w_{k-1})$ with $P(w_k w_{k-1})$
● True ✔
O False
Submit You have used 1 of 1 attempt
Q7 10.0/10.0 points (graded) Check all that apply:
✓ A language model is a probability distribution over sequences of words ✓
<ul> <li>Smoothing is a modification of the probability of words to avoid probabilities of zero</li> </ul>

✓ Perplexity assesses how confused is the language model when applied on a new corpus. If the model is confused, the perplexity will be high. ✓
Submit You have used 1 of 1 attempt
Answers are displayed within the problem
Q8
10.0/10.0 points (graded) Below are the steps in deriving the language model probabilities using trigrams. Please put them in order:
a. Make Markov independence assumptions $p(w_i w_1,w_2\ldots w_{i-1},w_{i-1})=p(w_i w_{i-2},w_{i-1})$
2 ▼ Answer: 2
b. Smooth the estimates
3 ✓Answer: 3
c. Expand $p(w_1, w_2 \dots w_n)$ using the chain rule
1 ▼ Answer: 1
Submit You have used 1 of 2 attempts
Answers are displayed within the problem
Q9

10.0/10.0 points (graded)

According to this week's suggested reading "Al's Language Problem" (Check all that apply):
✓ What makes text different from images is that unlike images, two words can have same meaning but look completely different ✓
It is easy to give machines human skills like creativity and abstraction
A problem with applying advanced machine learning methods to text is that a same word can have different meanings in different contexts
☑ Deep learning shows great promise to generalize from vision and games to understanding text ✔
Submit You have used 1 of 2 attempts  • Answers are displayed within the problem
Q10
10.0/10.0 points (graded) According to this week's suggested reading "Al's Language Problem" (Check all that apply):
Advanced deep learning systems not only excel in recognizing images and playing games, they are intelligible, that is we understand well how they come up with their answers
☑ The ultimate Al system would not only be able to provide answers, it would also be able to communicate with human language  ✓
▼ The ultimate AI system would not only be able to provide an answers, it would also be able to provide explanations   ✓
<b>✓</b>

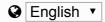
Submit

You have used 1 of 1 attempt

**1** Answers are displayed within the problem

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