Quiz 6 Submission

Total points 4/4

A score of 3/4 or 4/4 is required to be considered to have "passed" a quiz. Please do not resubmit a quiz if you obtain a score of 3/4. You don't receive a final grade at the end of the course, so it will have no bearing on your certificate!

Your quiz will be graded and returned to you within a few minutes in most cases. However, it may take up to three weeks for your work to be imported into your Gradebook. Do be patient, please!

Quizzes (which are submitted via Google Forms and not submit50) will not show up as submitted in your Gradebook, until the scores have been imported, and even then will only show up if you have received a passing score.

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The following question will ask you about the below context-free grammar, where S is the start symbol.

```
S -> NP V
NP -> N | A NP
A -> "small" | "white"
N -> "cats" | "trees"
V -> "climb" | "run"
```

The following question will also ask you about the following four sentences.
Sentence 1: Cats run.
Sentence 2: Cats climb trees.
Sentence 3: Small cats run.
Sentence 4: Small white cats climb.

✓ Of the four sentences above, which sentences can be derived from the above context-free grammar? *1/1

- ○ Only Sentence 1
- ○ Only Sentence 1 and Sentence 2
- ○ Only Sentence 1 and Sentence 3
- ○ Only Sentence 1 and Sentence 4
- ○ Only Sentence 1, Sentence 2, and Sentence 3
- ○ Only Sentence 1, Sentence 2, and Sentence 4
- ◉ Only Sentence 1, Sentence 3, and Sentence 4 ✓
- ○ All four sentences
- ○ None of the four sentences

The following question will ask you about a corpus with the following documents.
Document 1: a a b c
Document 2: a c c c d e f
Document 3: a c d d d
Document 4: a d f

✓ What is the tf-idf value for "d" in Document 3? * 1/1

Round answers to two decimal places. Use the natural logarithm (log base e) when taking a logarithm.

- ○ 0.00
- ○ 0.57
- ○ 0.69
- ◉ 0.86 ✓
- ○ 2.07
- ○ 3.47
- ○ 6.00

✓ Why is "smoothing" useful when applying Naive Bayes? * 1/1

- ○ Smoothing allows Naive Bayes to turn a conditional probability of evidence given a category into a probability of a category given evidence.
- ○ Smoothing allows Naive Bayes to be less "naive" by not assuming that evidence is conditionally independent.
- ◉ Smoothing allows Naive Bayes to better handle cases where evidence has never appeared for a particular category. ✓
- ○ Smoothing allows Naive Bayes to better handle cases where there are many categories to classify between, instead of just two.

✓ From the phrase "must be the truth", how many word n-grams of length 2 can be extracted? *1/1

- ○ 0
- ○ 1
- ○ 2
- ◉ 3 ✓
- ○ 4
- ○ 5
- ○ 6
- ○ 15
- ○ 17

Comments, if any