

START OF QUIZ

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Question 1

Topic: Lecture 2

Source: Lecture 2

When is it more appropriate to use hierarchical clustering than k-means? (1)

Question 2

Topic: Lecture 4

Source: Lecture 4

Why can we use logarithms for the Viterbi algorithm, but not the forward algorithm? (1)

Question 3

Topic: Lecture 3

Source: Lecture 3

Describe the noisy channel model, and how it can be used to represent [Machine Translation, ASR, POS-tagging]. (1)

Question 4

Topic: Lecture 1

Source: Lecture 1

Explain why edit distance (given our formulation) will always choose a substitution, if it can. (1)

Question 5

Topic: Lecture 4

Source: Lecture 4

What is the main difference between the Viterbi algorithm and the Forward algorithm, and why does it allow us to find the optimal path through a sequence? (1)

Question 6

Topic: Lecture 1

Source: Lecture 1

Explain what modifications would need to be made to our dynamic edit distance algorithm to incorporate weighted edit distance. (2)

Question 7

Topic: Lecture 3

Source: Lecture 3

Imagine that we are doing machine translation instead of POS-tagging. What would be the equivalent of emission probabilities and transition probabilities? Explain. (2)

Question 8

Topic: Lecture 2

Source: Lecture 2

Imagine we were using k-means to cluster misspellings around their correct spellings. How many clusters would we need, and what would be a good distance function? Explain. (2)

Question 9

Topic: Long

Source: Lecture 3

In class, we built a collocation matrix for a bigram language model. Modify the function so that it can handle a trigram language model and implements "add-alpha" smoothing, instead of "add-one" smoothing. (3)

END OF QUIZ