An HMM model would not be an appropriate approach to identify

A. Named Entities
B. Part-of-Speech tags
C. Concepts
D. Word n-grams

Answer D

Word n-grams can be determined by simple algortihmic search. All other types of information are suitable to be modelled using HMMs.

Which statement is correct?

A. The Viterbi algorithm works because words are independent in a sentence

B. The Viterbi algorithm works because it is applied to an HMM model that makes an independence assumption on the word dependencies in sentences

C. The Viterbi algorithm works because it makes an independence assumption on the word dependencies in sentences

D. The Viterbi algorithm works because it is applied to an HMM model that captures independence of words in a sentence

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Answer B

All other answers have some logical problem in the formulation. Answer A would imply that works are independent in a sentence, which is clearly wrong. Answer C states that the algorithm makes an independence assumption. The Viterbi algorithm does not make any assumptions to independence, it is applied to an HMM. Therefore Answer C is inaccurate. Answer D is also not exact, since the HMM models does not capture an existing independence, but simply makes the (wrong) assumption that the independence exists.

Which is false?

A. Entity disambiguation addresses the problem of synonyms

B. Named entity recognition addresses the problem of synonyms

C. Entity disambiguation addresses the problem of entity classification

D. Named entity recognition addresses the problem of entity classification

Answer B

Names entity recognition is a local method that extracts different entities from text independently. In standard NER the fact that different entities might share the names is not taken into account. However, NER performs classification into different entity types.

Which nodes cannot contribute to the score of a mention linked to a concept?

A. Other concepts linked to the same mention
B. Concepts that have in the knowledge graph no outgoing links
C. Concepts that have in the knowledge graph no incoming links
D. Concepts with low popularity

Answer A

Concepts that have been linked to the same mention are competing for the interpretation. Therefore it is not meaningful to take them into account when trying to support an alternative interpretation.

One might wonder why Answer B and C are correct. A node with no outgoing link can still be the end of a path when computing PPR. Therefore it will contribute to the ranking. A node with no incoming link can on the other hand be the start of a path when comuting PPR and therefore contributes to the scoring.