

START OF QUIZ

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I agree that all answers provided are in my own words, and that I will not discuss the contents of this quiz with any of my fellow students until after the exam period has completed for everyone. Furthermore, any response that used generative AI tools has been rephrased into my own interpretation, and has been appropriately cited.

Signature: _____

Question 1

Topic: Lecture 8

Source: Lecture 8

Why do we need both the state of the buffer and stack as features to SR parsers (ie, what is each contributing)? (1)

Question 2

Topic: Lecture 6

Source: Lecture 6

Briefly describe the role of the scanner, predictor, and completer in the Earley Parser. (1)

Question 3

Topic: Lecture 5

Source: Lecture 5

Describe why CNF is necessary for the CYK algorithm. (1)

Question 4

Topic: Lecture 7

Source: Lecture 7

How does the parser decide which element will be the head of an arc, and which the dependent? (1)

Question 5

Topic: Lecture 6

Source: Lecture 6

What does it mean for an Earley item to be “complete,” and what happens when it is? (1)

Question 6

Topic: Lecture 5

Source: Lecture 5

Let's say we wanted to modify PARSEVAL to take ambiguity into account. How might we use a PCFG and two gold references to account for ambiguous parsing? (2)

Question 7

Topic: Lecture 8

Source: Lecture 8

Imagine that we have a dependency parser that has a very good UAS (90+), but a very bad LAS (50-). Do you think that we could use the output of this parser as input to a neural translation model as is, or do you think that we should first re-train the labeling part of the algorithm to increase LAS? Doing both is probably the best solution, but I'm asking if you think that we could use the output of the existing model, even as we try to improve the quality of the labels. Explain. (2)

Question 8

Topic: Lecture 7

Source: Lecture 7

In class, we discussed PCFGs as a way of modeling syntactic ambiguity. Do you think something like PSR would benefit dependency parsing in a similar way? Briefly explain. (2)

Question 9

Topic: Long

Source: Lecture 6

Often, modern NLP tools work not with words, but with subword units. What modifications would we need to make to the Earley parser in order to work with subword units (for example: "agreement" might get split into "agree" and "-ment"). Where would they need to occur in the parser, and how do you think it might benefit and harm the algorithm? Do you think this would be easier to handle with CYK? (3)

END OF QUIZ