START OF QUIZ
Student ID:
98189038,Zhong,Yucai

Academic honesty is essential to the continued functioning of the University of British Columbia as an institution of higher learning and research. All UBC students are expected to behave as honest and responsible members of an academic community. Failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action.

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 5
Source: Lecture 5

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

Question 2

Topic: Lecture 5
Source: Lecture 5

Describe the difference between top-down and bottom-up parsing, including one advantage to each. (1)

Question 3

Topic: Lecture 8
Source: Lecture 8

Describe what we mean by a cascaded learning model, and one advantage and disadvantage to using one. (1)

Question 4

Topic: Lecture 7
Source: Lecture 7

Briefly describe how dependency parsing differs from constituency parsing. (1)

Question 5

Topic: Lecture 6
Source: Lecture 6

Why doesn't Earley require CNF? (1)

Question 6

Imagine that we want to take the best of both worlds of the CYK parser and the Earley parser. To take advantage of parallel processing, we create a "meet-in-the-middle" parser that simultaneously starts parsing from the top and the bottom. Describe at least 2 difficulties with this approach. (2)

Question 7

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 7

Imagine we have a very small treebank, and a large amount of unannotated data. How might we leverage this to iteratively train a reasonable-quality parser? What potential problems do you think we might encounter along the way? How might we try to solve these problems? (3)

END OF QUIZ