Quiz 8 - Unified Decision Making w/ Yuandong Tian (10/28)

Total points 5/5

INSTRUCTIONS:
Each of these quizzes is completion based, however we encourage you to try your best for your own education! These quizzes are a great way to check that you are understanding the course material. You can attempt this quiz as many times as you wish. You only need to complete the quizzes if you wish to earn a completion certificate. More information at the bottom of the course website.

IMPORTANT:
In order to receive credit, use the same email address as the one used to sign up for the course. If you are not sure which email you used, just complete the sign up form again with your preferred email.

PROBLEMS?
If you have any technical difficulties about this quiz, please ask course staff in our LLM Agents Discord.

Email *

christopherbare@gmail.com

✓ **What is NOT a promising approach to improve LLM planning?** *   1/1

○ Developing LLMs to work with symbolic representations to enhance convergence in structured tasks

○ Scaling LLMs by increasing data, compute, and model size to improve reasoning/planning capabilities

⦿ Designing specific combinatorial optimization algorithms to improve parameter ✓ finetuning within the existing LLM architecture

○ Integrating deep models with solvers for hybrid solutions in complex real-world domains

✓ **What is the primary advantage of a search-augmented model over a solution-only model?** *1/1

○ It avoids retrieving information from external sources, enhancing response speed

◉ It leverages previous problem-solving steps or paths, improving accuracy on similar queries ✓

○ It uses only pre-trained knowledge, lowering the need for additional data input

○ It focuses solely on training data patterns to avoid unnecessary resource use

---

✓ **Why is an end-to-end hybrid system often the best approach for complex planning tasks?** *1/1

○ It allows the solver to pre-process data independently, making the deep model more efficient

○ It ensures the deep model can serve as a tool that the solver calls upon only when needed, reducing computational overhead

◉ It enables continuous feedback between the solver and deep model, allowing them to optimize jointly for nonlinear, real-world constraints ✓

○ It keeps the solver's role separate, providing specialized data inputs that the deep model cannot process on its own

What distinguishes true reasoning from simple retrieval? * ✓ 1/1

○ True reasoning is always faster than retrieval, making it the preferred method in all applications

○ True reasoning can only occur when LLMs are trained on larger datasets, whereas retrieval can happen with any model size

○ True reasoning is exclusive to symbolic AI, while LLMs are limited to retrieval of information

● True reasoning involves generating new insights based on learned patterns, while retrieval simply pulls previously seen information without synthesis ✓

How can both fast and slow modes be enabled within a single model to support effective reasoning and planning? ✓ *1/1

○ By using a multi-layer perceptron to split fast and slow processing paths

● By training on data with randomized reasoning traces and selectively dropping parts of the traces to simulate both modes ✓

○ By dynamically retrieving data from external sources in fast mode and generating reasoning chains in slow mode

○ By using a separate pre-trained model specifically for complex reasoning tasks

Google Forms