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Week 2 quiz

Graded Assignment • 1h



English ∨

Due Sep 15, 11:59 PM +06

1. Fill in the blanks: _____ involves using many prompt-completion examples as the labeled training dataset to continue training the model by updating its weights. This is different from _____ where you provide prompt-completion examples during inference.

1 point

- ☐ In-context learning, Instruction fine-tuning
- ☐ Pre-training, Instruction fine-tuning
- ☒ Instruction fine-tuning, In-context learning
- ☐ Prompt engineering, Pre-training

2. Fine-tuning a model on a single task can improve model performance specifically on that task; however, it can also degrade the performance of other tasks as a side effect. This phenomenon is known as:

1 point

- ☒ Catastrophic forgetting
- ☐ Model toxicity
- ☐ Instruction bias
- ☐ Catastrophic loss

3. Which evaluation metric below focuses on precision in matching generated output to the reference text and is used for text translation?

1 point

- ☒ BLEU
- ☐ HELM
- ☐ ROUGE-2
- ☐ ROUGE-1

4. Which of the following statements about multi-task finetuning is correct? Select all that apply:

1 point

- ☒ FLAN-T5 was trained with multi-task finetuning.
- ☒ Multi-task finetuning can help prevent catastrophic forgetting.
- ☐ Performing multi-task finetuning may lead to slower inference.
- ☐ Multi-task finetuning requires separate models for each task being performed.

5. "Smaller LLMs can struggle with one-shot and few-shot inference:"

1 point

Is this true or false?

☒ True

☐ False

6. Which of the following are Parameter Efficient Fine-Tuning (PEFT) methods? Select all that apply.

1 point

☒ Additive

☒ Selective

☒ Reparameterization

☐ Subtractive

7. Which of the following best describes how LoRA works?

1 point

- ☒ LoRA decomposes weights into two smaller rank matrices and trains those instead of the full model weights.
- ☐ LoRA freezes all weights in the original model layers and introduces new components which are trained on new data.
- ☐ LoRA continues the original pre-training objective on new data to update the weights of the original model.
- ☐ LoRA trains a smaller, distilled version of the pre-trained LLM to reduce model size

8. What is a soft prompt in the context of LLMs (Large Language Models)?

1 point

- ☒ A set of trainable tokens that are added to a prompt and whose values are updated during additional training to improve performance on specific tasks.
- ☐ A strict and explicit input text that serves as a starting point for the model's generation.
- ☐ A technique to limit the creativity of the model and enforce specific output patterns.
- ☐ A method to control the model's behavior by adjusting the learning rate during training.

9. "Prompt Tuning is a technique used to adjust all hyperparameters of a language model."

1 point

Is this true or false?

☐ True

☒ False

10. "PEFT methods can reduce the memory needed for fine-tuning dramatically, sometimes to just 12-20% of the memory needed for full fine-tuning."

1 point

Is this true or false?

☒ True

☐ False