

Basic information:

Name: bbb88

Hometown: China

Avata: see attached image

Write up:

1. Who are you (mini-bio) and what do you do professionally? If you are on a team, please complete this block for each member of the team.

I am an researcher in NLP

2. What motivated you to compete in this challenge?

I hope AI help human beings

3. High level summary of your approach: what did you do and why?

Use LLM to solve the problem, we are in LLM era of AI

4. Do you have any useful charts, graphs, or visualizations from the process?

No

5. Copy and paste the 3 most impactful parts of your code and explain what each does and how it helped your model.

- enable unsloth to save about half computing

```
elif args.use_unsloth:
    model, tokenizer = load_unsloth_model(args, model_id)
```

- enable lora to save memory and disk

```
if args.use_lora:
    target_modules = find_all_linear_names(args, model)
    model = FastLanguageModel.get_peft_model(
```

- use rdrop for SC models, which will have better generalization

```
if self.args.bi_rdrop>0 and model.training and
self.curr_train_step>=self.args.dp_start:
    r_loss, _, r_logits1, r_logits2, r_logits3 =
self.compute_classify_loss(model, inputs)
    loss = (loss+r_loss)/2
    if self.args.bi_rdrop>0:
        bi_rloss = F.mse_loss(r_logits1, logits1)
        loss = loss + bi_rloss*self.args.bi_rdrop
```

6. Please provide the machine specs and time you used to run your model.

- CPU (model): 13th Gen Intel(R) Core(TM) i7-13700KF

- GPU (model or N/A): single RTX4090 24G
  - Memory (GB): 64G
  - OS: Ubuntu 22.04.2 LTS
  - Train duration: 364Hours
  - Inference duration: ~7.6 hours on T4
7. Anything we should watch out for or be aware of in using your model (e.g. code quirks, memory requirements, numerical stability issues, etc.)?

The training of SC models is unstable, refer README for details

8. Did you use any tools for data preparation or exploratory data analysis that aren't listed in your code submission?

NA

9. How did you evaluate performance of the model other than the provided metric, if at all?

I only use the provide metric

10. What are some other things you tried that didn't necessarily make it into the final workflow (quick overview)?

NA

11. If you were to continue working on this problem for the next year, what methods or techniques might you try in order to build on your work so far? Are there other fields or features you felt would have been very helpful to have?

- I did not use the data from the other track(too late to see the announcement), more variables will help LLM training

- I did not try bigger LLMs due to computing resource this time.

12. What simplifications could be made to run your solution faster without sacrificing significant accuracy?

Simply ensemble less models, A single SC model will give resonable accuracy and SC models is much efficiency than LLM AR models