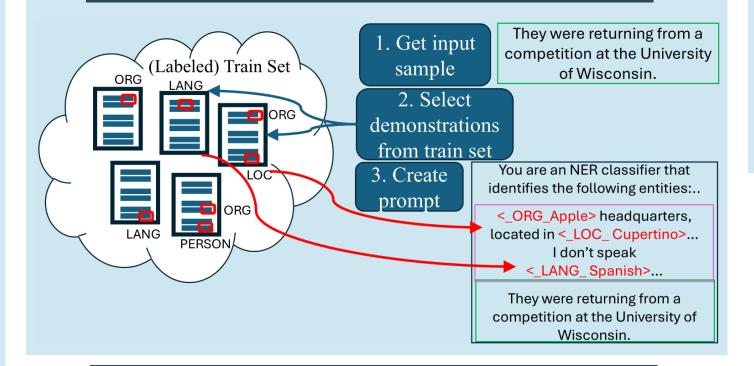
In-Context Learning on a Budget: A Case Study in Token Classification



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Classic In-Context Learning



Pool Selection Methods

Central

Vote-K

Select the K samples that Select diverse samples are closest to the center (Su et al. 2022) of the train set

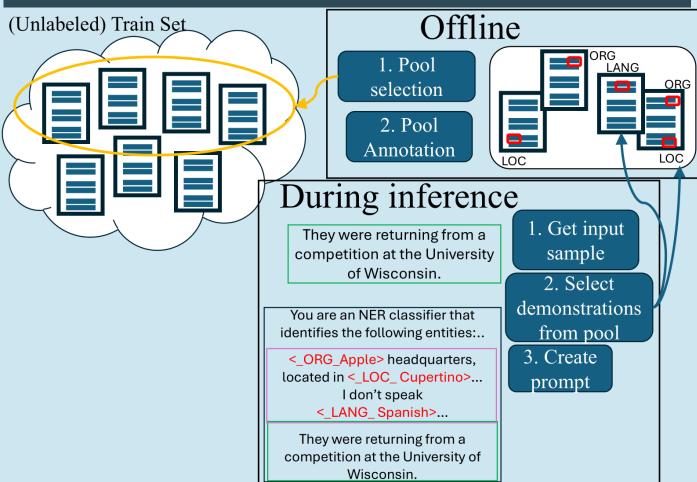
Cluster

Cluster train set to K clusters and select one sample per cluster

Random

Randomly select K train samples

In-Context Learning on a Budget



Experiments

Tasks (token classification)

- Named entity recognition
- Dependency parsing
- Part-of-speech tagging

Models

- Claude 3 Haiku
- GPT4
- Gemini 1.5 Pro

Results

cluster vote-k random oracle central **NER (Ontonotes)** Claude 3 Haiku Gemini 1.5 Pro GPT4 Score (Strict matching) 0.50 0.50 25.0 26.0 0.60 0.75 0.55 0.70 0.65 0.50 0.60 100 200 300 400 100 200 300 400 100 200 300 400 Dependency parsing (UD) Claude 3 Haiku Gemini 1.5 Pro 0.22 0.36 0.24 0.20 0.34 0.18 0.16 0.32 0.20 0.14 0.30 0.18 0.12 100 150 200 250 100 150 200 250 100 150 200

Contact





References

Su et al. 2022. Selective annotation makes language models better fewshot learners. ArXiv preprint, abs/2209.01975.