



--



Transformer “ ”

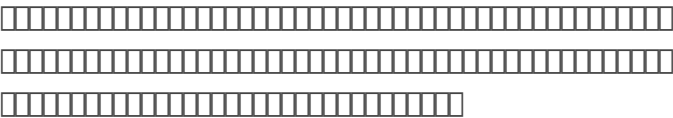
- 1. Attention dot
- 2. “ ”
- 3. RNN transformer

CoT Chain of Thought

- 1. CoT “ ” attention
- 2. CoT LLM
- 3. LLM
- 4. CoT



Khaoutar El Maghraoui test-time compute AI OpenAI o1



1. “ ”
2. “Attention”

token

token
3. “multi-Head”

1.

1.

LLM

1. Phi-2

34%

85%

2. 100 ChatGPT Reddit

48%

73%

3.

4. mnist

90%

100%
2.

/
2.
3.

/
1.
4.

1. CoT RL

2.
5.

1.

2.

/

1.
2.

1.

- 1.
 - 1.
- 2.
- 3.
- 4.
 - 1. KV cache kv



- 1.
- 2.