Task Definition

Question:

A train leaves City A at 8:00 AM, traveling at a constant speed of 60 km/h. Another train leaves City B (180 km away) at 9:00 AM, heading toward City what time will the two trains meet?

Answer: 9:48 AM
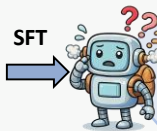
Question

$M_{teacher}$

Long-CoT : <think>First, Train A starts at 8:00 AM ......Second, Relative speed = 60 + 90 = 150 km/h......Emm, Let me check..Aha, I will revise my previous answer........Wait, these steps maybe </think> The final answer is : 9:48 AM.
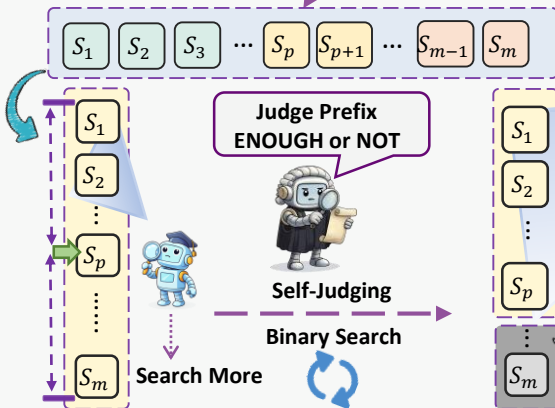
SFT

Missing Information Limited Learning

Excess Reflection Skewed Thinking

① **Adaptive Truncation**

S_1 S_2 S_3 ... S_p S_{p+1} ... S_{m-1} S_m

S_1 S_2 ... S_p ... S_m

Judge Prefix ENOUGH or NOT

Self-Judging

Search More

Binary Search

Minimal & Sufficient

S_1 S_2 ... S_p ... S_m

② **Prefix Alignment**

Prefix Completion

Prefix

$M_{student}$

CoT

Concatenate

Supervision Signal : <Prefix> ... </Prefix> + CoT

$M_{student}$

Supervision Fine-Tuning