

note of experiment in week23

zxp

August 10, 2024

1 environment

cpu: Intel(R) Xeon(R) Gold 6330 CPU @ 2.00GHz (56 cores were applied)

gpu: rtx3090(a piece was applied)

System: CentOS7

Compiler: 9.5

2 code

3 Experiment

Mainly it's the code issue of Lu's. Fixed the bug mentioned last week about type conversion, changed double to float, and the error is basically unchanged. I carefully reviewed the code, but i didn't understand. I didn't know how to fix it, so I followed Lu's suggestion to look at the part that was optimized less, and i tested the correctness of those codes. The result was even worse than the final version, with more error, and ever some results were all zeros(maybe they were not calculated). I even tested the commented-out code, and didn't find any with especially small errors, they all seemed a bit off.

4 Experiment2

The part of the GPU memory usage: uses 'nvidia-smi -query-gpu=memory.used -format=csv -L-1' to measure the GPU memory usage. Last week it was found that measuring at one-second intervals might be too long, but the interval specified by -l must be an integer. Luckily, -lms can be used to specify the interval in milliseconds for measurement, which should be enough. But there's still an issue when running the program simultaneously with measuring the GPU memory usage in a script. I'm still trying to figure it out.