week6实验记录

张新鹏

November 4, 2023

1 environment

cpu:Inter i5-12400f (4.40 GHz)

System:Ubuntu 22.04.1

Compiler:x86_64-linux-gun-gcc-11

2 Experiment

This week,we use the twelve specified convolution,use Tensor1D and Tensor4D arrays as the data structures. The code was written by Deng Hao. he set the batch sizes of the input tensors 10.

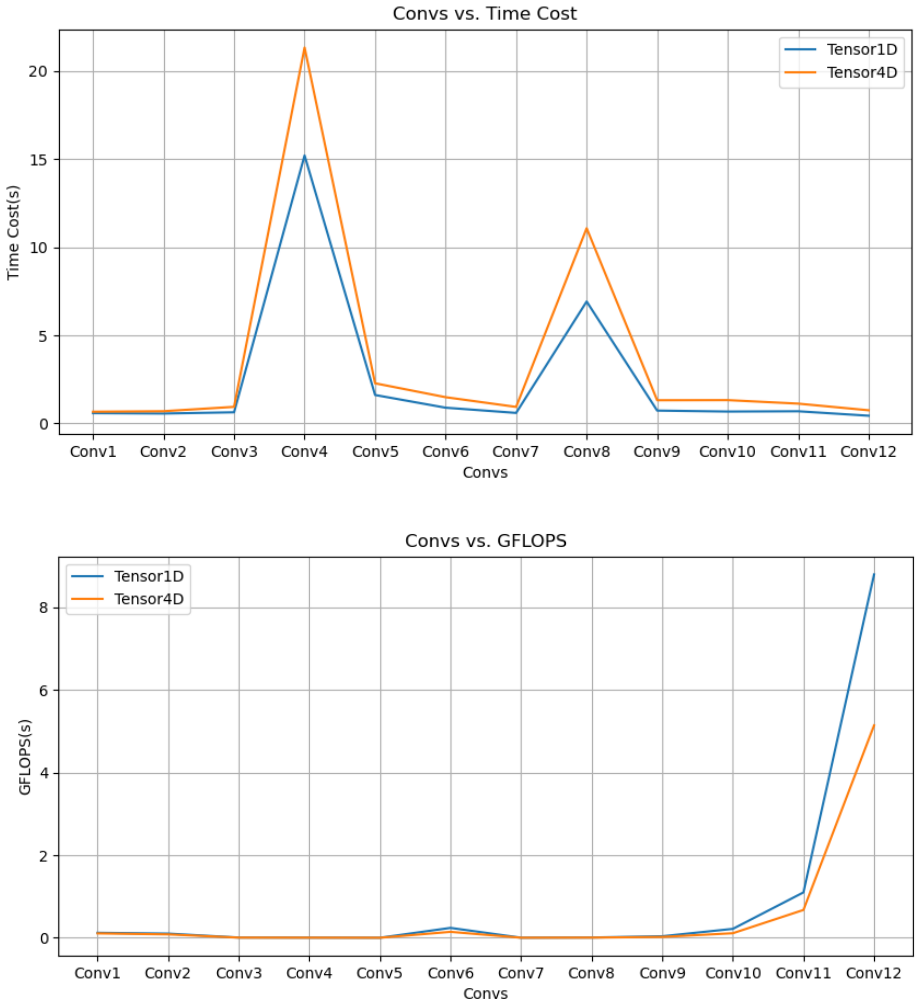

Figure 1: Compilation Optimization option: -O2

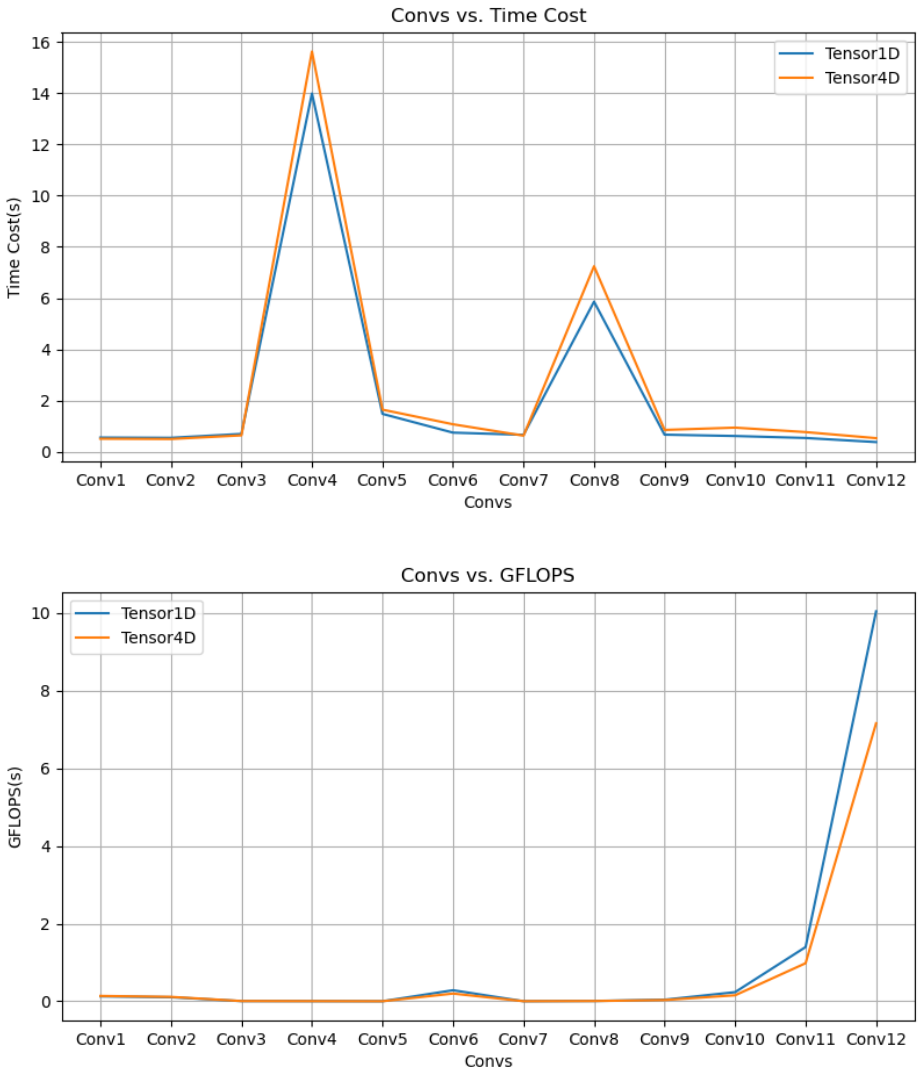

Figure 2: Compilation Optimization option: -o3

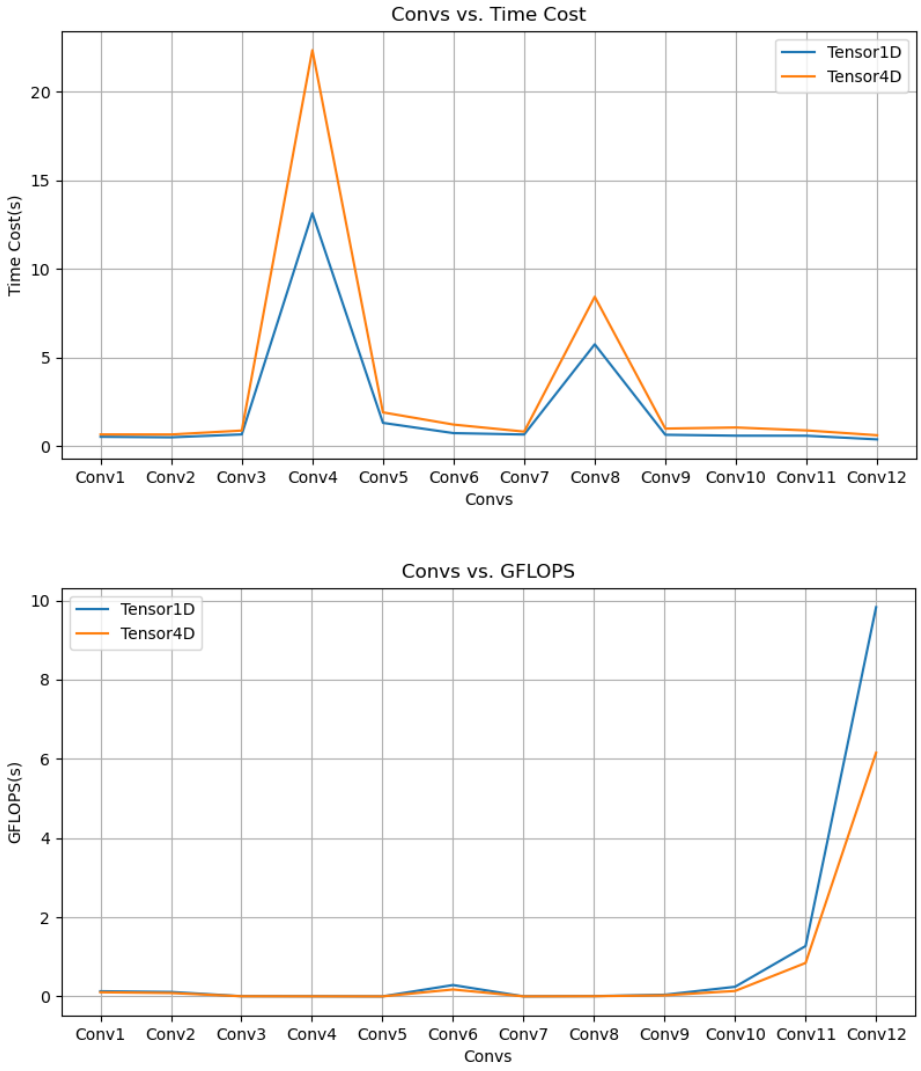

Figure 3: Compilation Optimization option: -Ofast -march=native

3 Analysis

under -O2、-O3 and -Ofast -march=native,Tensor1D is better than Tensor4D.The GFLOPS of Conv11 and Conv12 are much higher compared to others, which is likely due to their small h $\times$ w.

4 Conclusion

Tensor1D is better than Tensor4D.