Lab4 Report

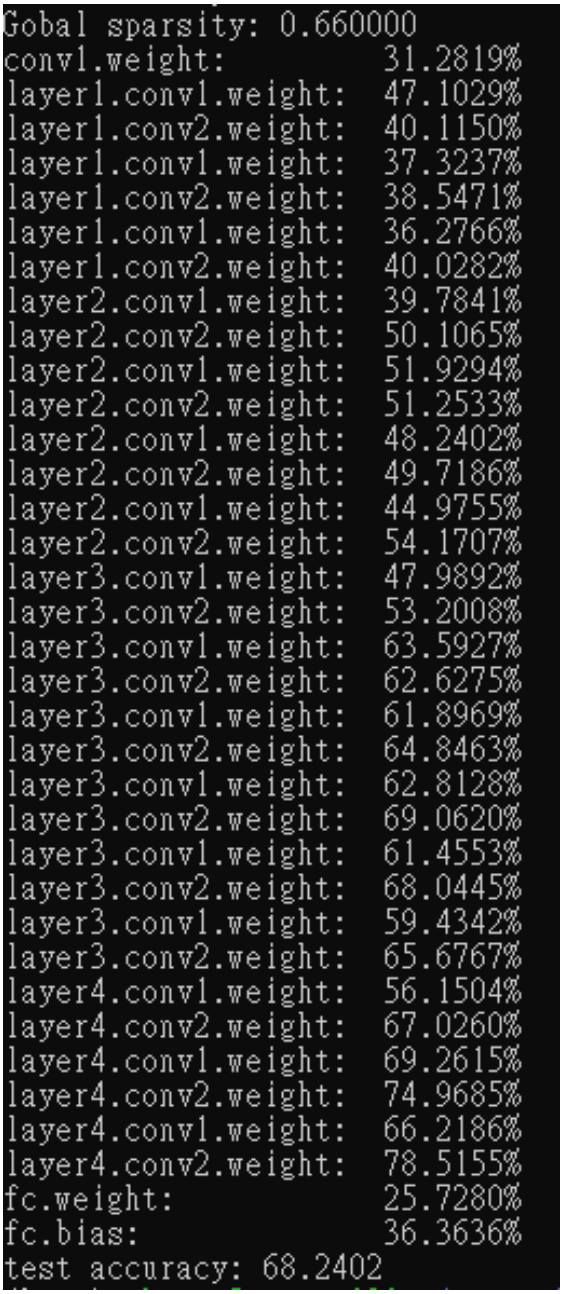
我們使用 Skew_food11 當作資料，model 使用 Resnet34，baseline 的結果為 87.3021%

(a)global sparsity = 50%的 accuracy 結果為 81.7150%

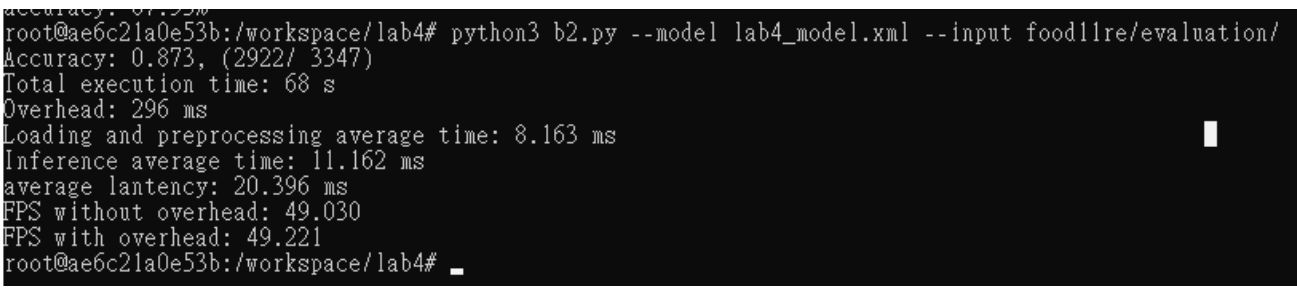
```
Gobal sparsity: 0.500000
conv1.weight:          26.7857%
layer1.conv1.weight:   38.2812%
layer1.conv2.weight:   28.8167%
layer1.conv1.weight:   26.7036%
layer1.conv2.weight:   27.5472%
layer1.conv1.weight:   25.9766%
layer1.conv2.weight:   29.1775%
layer2.conv1.weight:   28.8561%
layer2.conv2.weight:   37.2959%
layer2.conv1.weight:   38.2907%
layer2.conv2.weight:   37.7001%
layer2.conv1.weight:   35.0979%
layer2.conv2.weight:   36.1620%
layer2.conv1.weight:   32.6158%
layer2.conv2.weight:   40.3917%
layer3.conv1.weight:   34.8518%
layer3.conv2.weight:   38.9386%
layer3.conv1.weight:   47.8817%
layer3.conv2.weight:   46.8018%
layer3.conv1.weight:   46.2192%
layer3.conv2.weight:   49.1801%
layer3.conv1.weight:   46.9613%
layer3.conv2.weight:   53.7657%
layer3.conv1.weight:   45.7425%
layer3.conv2.weight:   52.2598%
layer3.conv1.weight:   43.9696%
layer3.conv2.weight:   49.8152%
layer4.conv1.weight:   41.2618%
layer4.conv2.weight:   50.4551%
layer4.conv1.weight:   52.3453%
layer4.conv2.weight:   57.8268%
layer4.conv1.weight:   49.5817%
layer4.conv2.weight:   61.7079%
fc.weight:             17.7202%
fc.bias:               18.1818%
test accuracy: 81.7150
```

嘗試讓 accuracy drop 20%以內的 global sparsity 為 66%，

accuracy 為 68.2402%



(b)



(c)

```
root@ae6c21a0e53b:/workspace/lab4# accuracy_check -c accuracy_check.yml
Processing info:
model: resnet34
launcher: dlsdk
device: CPU
dataset: food11_datset
OpenCV version: 4.3.0-openvino
IE version: 2.1.42025
Loaded CPU plugin version:
    CPU - MKLDNNPlugin: 2.1.42025
Input info:
        Layer name: input
        precision: FP32
        shape [1, 3, 224, 224]

Output info
        Layer name: Gemm_124
        precision: FP32
        shape: [1, 11]

3347 objects processed in 75.741 seconds
accuracy: 87.93%
root@ae6c21a0e53b:/workspace/lab4#
```

(d)

```
root@ae6c21a0e53b:/workspace/lab4# python3 b2.py --model results/Resnet34_Default
Accuracy: 0.871, (2914/ 3347)
Total execution time: 60 s
Overhead: 833 ms
Loading and preprocessing average time: 8.847 ms
Inference average time: 7.945 ms
average lantency: 17.829 ms
FPS without overhead: 56.087
FPS with overhead: 55.783
root@ae6c21a0e53b:/workspace/lab4#
```

```
root@ae6c21a0e53b:/workspace/lab4# python3 b2.py --model results/Resnet34_Ac
Accuracy: 0.871, (2914/ 3347)
Total execution time: 61 s
Overhead: 843 ms
Loading and preprocessing average time: 8.991 ms
Inference average time: 7.968 ms
average lantency: 17.985 ms
FPS without overhead: 55.602
FPS with overhead: 54.869
```