

2023 Fall Deep Learning Report

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Compare resnet18 with and without pretrained :

若使用 pretrained 模式，此時即是做 transfer learning，大概 10 個 epochs，test 的準確率就能達到 90%。倘若沒有使用 pretrained 模式，則要重頭依據自己的資料集訓練模型，但若訓練集資料不夠（例如此次 lab），不管使用什麼方法去訓練模型，都無法達到和原本使用 pretrained 模式相近的準確率。

Screenshot of task1 (>75% accuracy) (Lab2_ResNet18.ipynb) :

train 和 valid 的 ratio	0.95
batch size	64
learning rate	0.001
epochs	50
optimizer	Adam
loss	CrossEntropy

```
epoch: 47
Training Accuracy: 94.9488% Training Loss: 0.1281
Validation Accuracy: 85.3659% Validation Loss: 0.3276
epoch: 48
Training Accuracy: 97.1228% Training Loss: 0.0891
Validation Accuracy: 80.4878% Validation Loss: 0.9610
epoch: 49
Training Accuracy: 95.5243% Training Loss: 0.1122
Validation Accuracy: 82.9268% Validation Loss: 0.6450
epoch: 50
Training Accuracy: 95.5882% Training Loss: 0.1213
Validation Accuracy: 81.7073% Validation Loss: 0.6428
usr@iVSTest:~/Desktop/brian/DL/Lab02$ █
```

Graphs for learning rate & weights (with Tensorboard) (Lab2_advance.ipynb) :

train 和 valid 的 ratio	0.95
batch size	64
learning rate	0.0001
epochs	10
optimizer	Adam
loss	CrossEntropy

