

[期中報告注意事項]:

1. 期中專案報告電子檔上傳期限：**2019/11/20 (Wed) 22:00**
2. 請將期中專案報告電子檔以 .ipynb 副檔名格式上傳至 LMS 教學網,檔案名稱如下:
DL_midterm_學號.ipynb (例如: DL_midterm_12345678.ipynb)
3. 期中專案報告電子檔內,須註明報告標題以及科系、年級、學號和姓名。
4. **期中專案報告缺交和遲交者,不能補交,並以零分計算!**

[建議]: 無論是否能完成所有問題需求,請務必於期限內,上傳期中報告電子檔!

[專案題目]: **"Deep CNN on CIFAR10 Dataset with Keras"**

[專案內容]: 請依據 Ref. 1 所附程式修改,完成下列工作:

- (1) 繪製 (i) Training Loss vs. Validation Loss 圖
(ii) Training Accuracy vs. Validation Accuracy 圖
 - (2) 繪製 Confusion Matrix
 - (3) 修改 CNN 模型,並調整各項參數 (hyperparameters),提升效能 (e.g., accuracy, loss, computation,...)。

< 建議 >: Run the Python program in **Ref. 1** on [Google Colab with GPU](#) !

[REFERENCE]:

1. Code : "Train a simple deep CNN on the CIFAR10 small images dataset."
https://keras.io/examples/cifar10_cnn/
2. "The CIFAR-10 dataset" <https://www.cs.toronto.edu/~kriz/cifar.html>
3. Prof Andrew Ng (吳恩達教授) "Data Augmentation"
<https://www.youtube.com/watch?v=Jl8saFjK84o&list=PLkDaE6sCZn6Gl29AoE31iwdVwSG-KnDzF&index=21>
4. "ValueError: steps_per_epoch=None is only valid for a generator based on the keras.utils.Sequence" https://blog.csdn.net/weixin_41432433/article/details/88667571