

Machine Learning 2022 Coding Homework 02

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One point for each question. If you think any question is too difficult, you can give it up strategically. Please arrange your time according your own schedule.

Question 1.

In this question, you are required to compare the performance(top 1 error, top 5 error) of **ResNet** and **DenseNet** in dataset **CIFAR100**.

Task requirement:

1. Use ResNet and DenseNet to classify **CIFAR100**.
2. For each of **ResNet** and **DenseNet**, you should train two models **in no more than 60 epochs** with different depth (e.g. **ResNet50**, **ResNet152**, **DenseNet121**, **DenseNet161**) and compare their performances.
3. Write a report about your result. Your report should contain a histogram about each model and its performance, and your analysis. You should also show your model and training parameters (e.g. initial learning rate, weight decay, number of epochs), and attach your running time screenshots and result screenshots.
4. Try to point out which parts of the code caused the change in learning rate during training. Does the change help to improve final performances?
5. You need to upload your code to Web Learning.

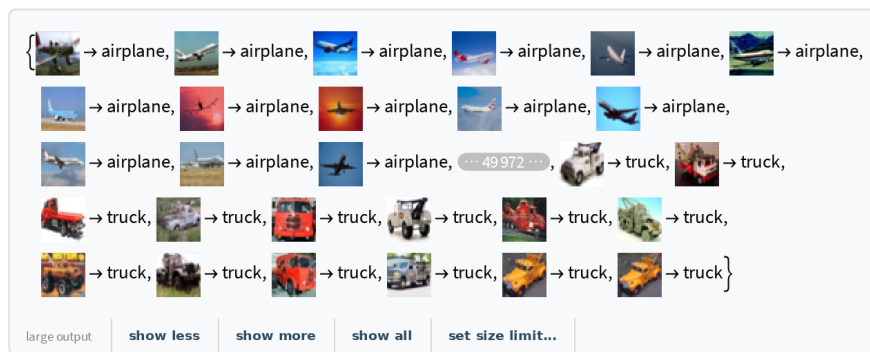


Figure 1: CIFAR100 examples