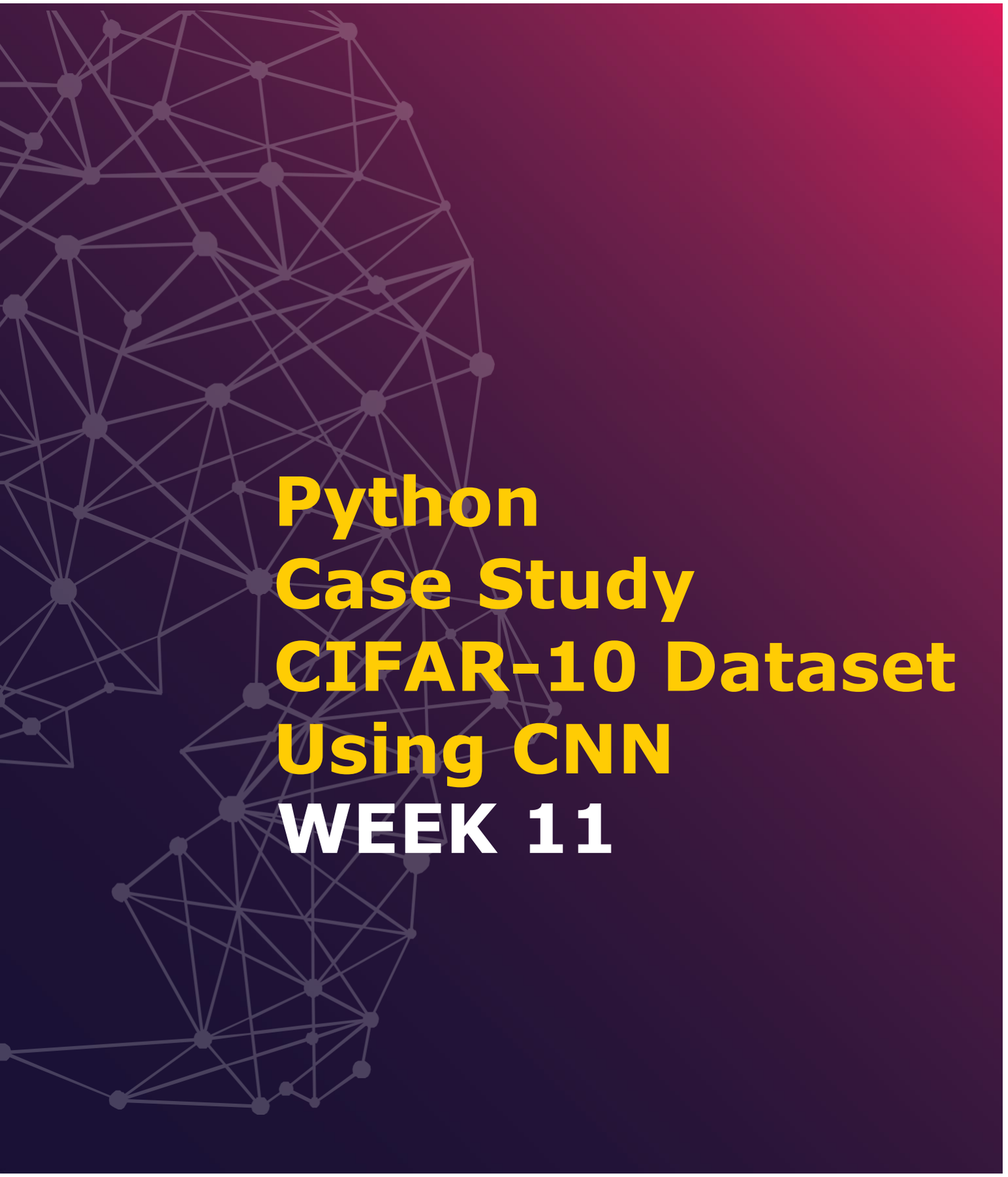
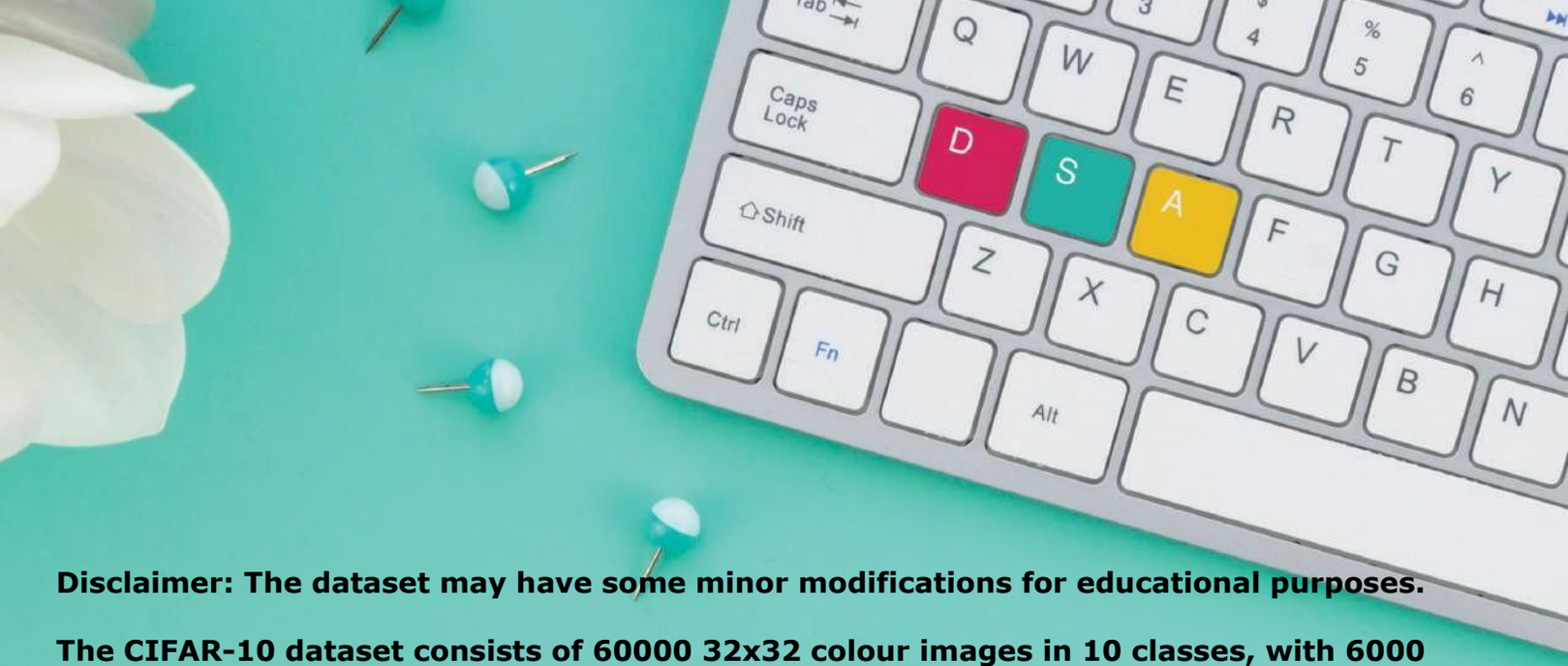


Python Case Study CIFAR-10 Dataset Using CNN

WEEK 11

Data Science Academy

CASE STUDY



Disclaimer: The dataset may have some minor modifications for educational purposes.

The CIFAR-10 dataset consists of 60000 32x32 colour images in 10 classes, with 6000 images per class.

There are 50000 training images and 10000 test images. The dataset is divided into five training batches and one test batch, each with 10000 images.

Dataset can be found here.

You are asked to train a model with following steps:

1. Download, extract and load CIFAR10 image dataset using torchvision
2. Show random batches of images in a grid using torchvision.utils.make_grid
3. Create a convolutional neural network using with nn.Conv2d and nn.MaxPool2d layers
4. Train a convolutional neural network and visualize the losses and errors
5. Understand overfitting and the strategies for avoiding it
6. Generate predictions on single images from the test set
7. Save and load model for further purposes

Complete Homework with following steps:
1. Name your final Homework Script as “Image_Classification_using_CNN_in_PyTorch”.
2. Create repository named “CIFAR-10-CNN” in your Github account and push your Case Study Script to this repository.
3. Fork other users’ repositories, make pull requests (at least one, making three pull requests is desirable).
Note : Your pull requests should either fix problems or add new features.

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