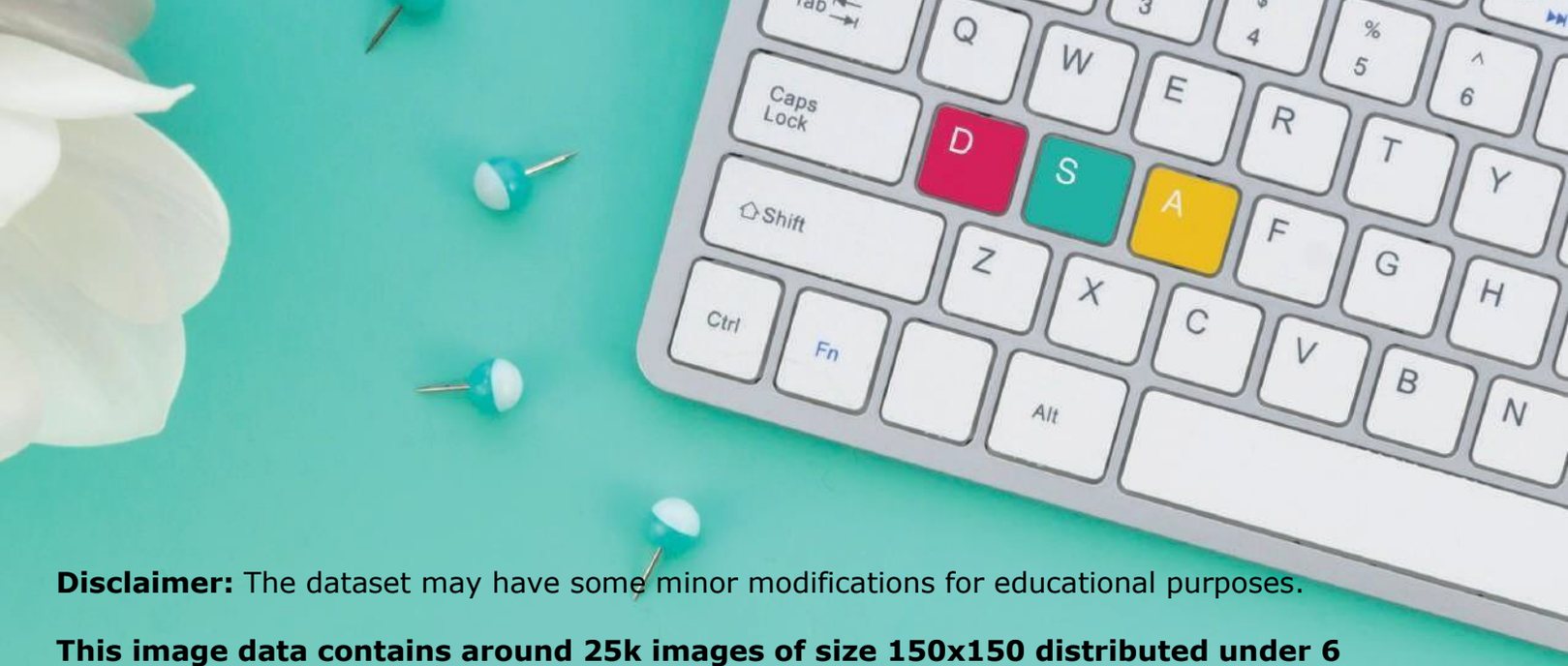
Python Homework Landscape Classification with CNN

WEEK 11

Data Science Academy

HOMEWORK



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

This image data contains around 25k images of size 150x150 distributed under 6 categories.
All images are divided into 6 classes:
{'buildings' -> 0,
'forest' -> 1,
'glacier' -> 2,
'mountain' -> 3,
'sea' -> 4,
'street' -> 5 }

The Train, Test and Prediction data is separated in each zip files. There are around 14k images in Train, 3k in Test and 7k in Prediction.

Dataset can be found here.

You are asked to train a model with following steps:

1. Download data and get familiarized with it.
2. Normalize and preprocess data.
3. Visualize a batch of training data.
4. Specify Loss Function and Optimizer.
5. Train the Model.
6. Load the model with the lowest validation loss.
7. Test the trained network.
8. Create a subfolder containing all the unlabeled images in seg_pred to make PyTorch's ImageFolder work.

Complete Homework with following steps:

1. Name your final Homework Script as “Landscape-Classification”.
2. Create repository named “ConvNet-Architecture” in your Github account and push your Homework 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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