Convolutional Neural Networks for Image Classification

Construct set of datasets of RGB images

Construct set of datasets with colour images

"Produce datasets from prepared ones by applying variety of preprocessing techniques. Save set of processed datasets in colour."

Step 1: download code file from Resources

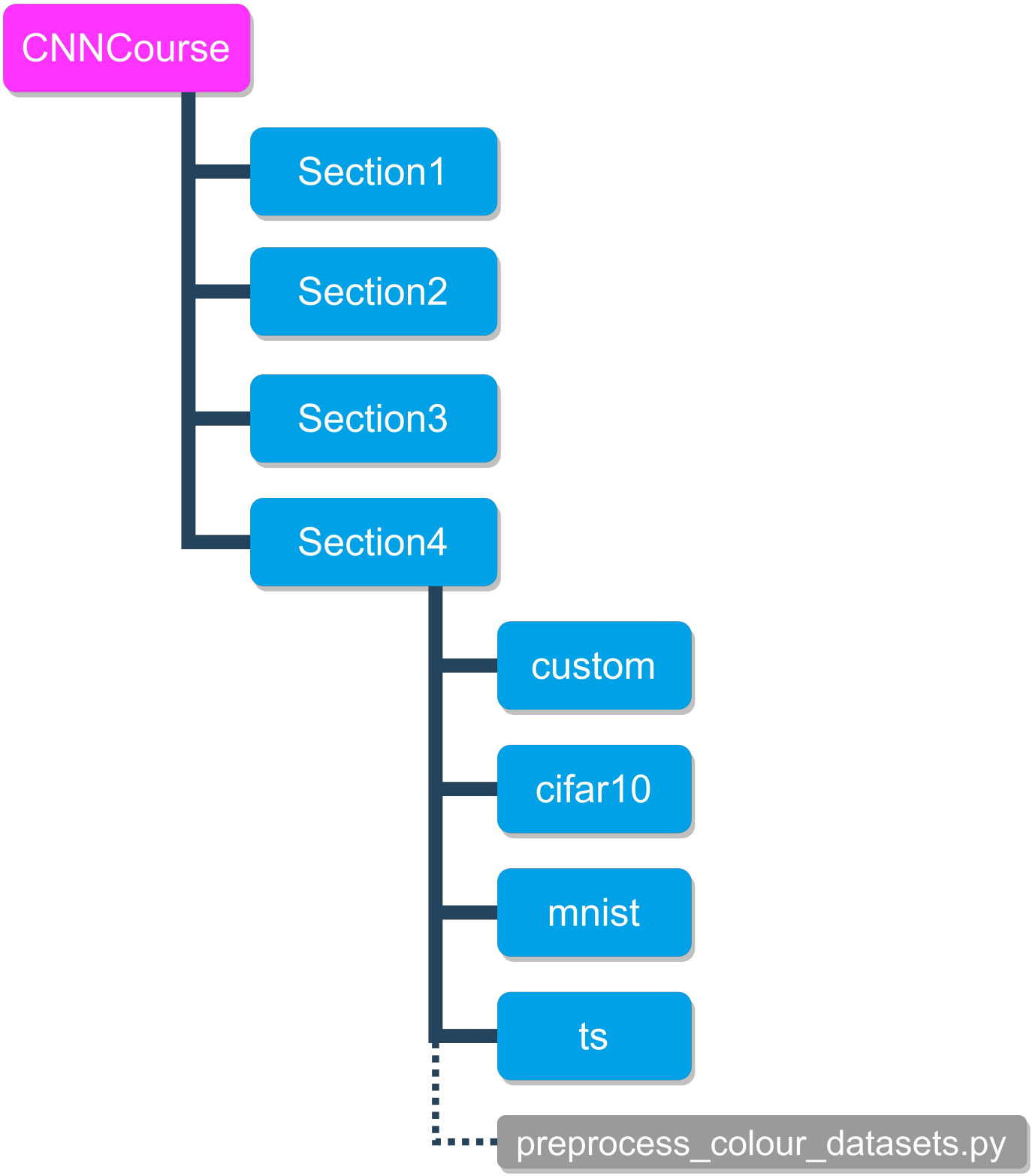
Navigate to *Resources* of the lecture 'Construct set of datasets with colour images' and download one *'py'* file.

Table 1. Download code file from Resources

Filename	Description
preprocess_colour_datasets.py	Produces RGB datasets by preprocessing techniques

Step 2: create new folders

Open *File manager* and create new folder *'Section4'* inside existing folder *'CNNCourse'*. Place downloaded code file into created folder *'Section4'*. Inside folder *'Section4'* create following new folders: *'cifar10'*, *'custom'*, *'mnist'* and *'ts'*. You should have following hierarchy.


CNNCourse
Section1
Section2
Section3
Section4
custom
cifar10
mnist
ts
preprocess_colour_datasets.py

Step 3: run code file 'preprocess_colour_datasets.py'

Open *PyCharm* or any other programming environment you have. Copy and paste obtained from previous Sections full paths into the code. Keep in mind that your full paths might be different. Run the file.

Step 4: open File manager

Open *File manager* and navigate to the folder *'Section4'*. Inside created folders you should have binary files as described in the Table below.

Table 2. Produced RGB datasets by preprocessing techniques

Custom dataset	CIFAR-10 dataset	Traffic Signs dataset
dataset_custom_rgb_255.hdf5	dataset_cifar10_rgb_255.hdf5	dataset_ts_rgb_255.hdf5
dataset_custom_rgb_255_mean.hdf5	dataset_cifar10_rgb_255_mean.hdf5	dataset_ts_rgb_255_mean.hdf5
dataset_custom_rgb_255_mean_std.hdf5	dataset_cifar10_rgb_255_mean_std.hdf5	dataset_ts_rgb_255_mean_std.hdf5
mean_rgb_dataset_custom.hdf5	mean_rgb_dataset_cifar10.hdf5	mean_rgb_dataset_ts.hdf5
std_rgb_dataset_custom.hdf5	std_rgb_dataset_cifar10.hdf5	std_rgb_dataset_ts.hdf5