Preparing files for training

After all images were labelled, it's time to prepare other files needed for training in *Darknet framework.*

These files are:

- labelled_data.data
- classes.names
- train.txt
- test.txt

Five lines inside *labelled_data.data* are:

- classes = 2
- train = /home/my_name/**train.txt**
- valid = /home/my_name/**test.txt**
- names = /home/my_name/**classes.names**
- backup = backup

First line specifies number of classes, namely, number of labelled objects that *YOLO v3* will be trained on, and that will be used for detection after training.

Second line specifies full path to the file *train.txt* that in turn consists of full paths to the images for training. The same is true for **third line** with difference that images are used for validation during training.

Fourth line specifies full path to the file *classes.names* that has names of labelled objects.

Fifth line specifies folder where trained weights will be saved.

Files *train.txt* and *test.txt* look like following (every path is in a new line):

- /home/my_name/labelled-images/image001.jpg
- /home/my_name/labelled-images/image002.jpg
- /home/my_name/labelled-images/image003.jpg
- ...
- /home/my_name/labelled-images/image799.jpg
- /home/my_name/labelled-images/image800.jpg

File *classes.names* looks like following (classes' names and their number can be different):

- Motorbike
- Car

Download Py files into Labelled-Data

Create a folder with name *Labelled-Data* to keep everything organized. Download *Py* files from *Resources* and copy them to this folder. You should have following:

- *Labelled-Data/*
  - *getting-full-path.py*
  - *creating-train-and-test-txt-files.py*
  - *creating-files-data-and-names.py*

Getting full path

Before creating needed files to train in *Darknet framework*, it is needed to find *absolute* or *full path* to the directory with *labelled images*:

- Copy and paste *Py* file ***getting-full-path.py*** to the folder with *labelled images*
- Open *Terminal* (or *Anaconda Prompt*) and activate your *Python v3* environment and go to the directory with *labelled-images*. You can list all available sub-directories in the current directory by using following command in *Terminal* (or *Anaconda Prompt*):
  `dir`
  It will show all sub-directories you can go in. Go inside needed directory by using following command in *Terminal* (or *Anaconda Prompt*):
  `cd Downloads/labelled_images`
  (yours should be different)
- Run following command in *Terminal* (or *Anaconda Prompt*):
  `python3 getting-full-path.py`
  or:
  `python getting-full-path.py`
- You should get full path like following (yours should be different):
  - */home/my_name/labelled-images/*

- Open *Py* file ***creating-train-and-test-txt-files.py*** and *Py* file **creating-files-data-and-name.py** in your *Programming Environment (PyCharm or any other you use)* and assign to the following variable found full path:
  - `full_path_to_images = ‘’`

Creating files train.txt and test.txt

When full path was found, it is time for creating files *train.txt* and *test.txt*:

- Open *Py* file ***creating-train-and-test-txt-files.py*** in your *Programming Environment (PyCharm or any other you use)*
- Run the code
- Open folder with *labelled images* and check if *txt* files were created

Creating files labelled_data.data and classes.names

Next, it is time for creating files *labelled_data.data* and *classes.names*:

- Open *Py* file **creating-files-data-and-name.py** in your *Programming Environment (PyCharm or any other you use)*
- Run the code
- Open folder with *labelled images* and check if files were created