Training YOLO v3 for Objects Detection with Custom Data

Installing LabelIMG

Useful resource for labelling

Criteria:

- ease of use
- free to use
- supports bounding boxes

LabelIMG

- easy to install on **Linux** / **Windows** / **Mac**
- **bulk upload** of images
- upload annotations and correct them
- user friendly **off-line interface**
- saving results directly into **YOLO format**

Installing LabelIMG

The installation process is very simple and takes few minutes. Anyway, if you encounter any issues with installation *LabelIMG*, let's discuss them in *Question & Answer* board. Together with course-mates we will find solution.

Let's consider few examples on how to install *LabelIMG* from official repository.

PyPI

The **easiest way** to install *LabelIMG* is by using *pip*. Activate your *Python v3* environment and run following command in *Terminal* (or *Anaconda Prompt*):

```
pip3 install labelImg
```
or:
```
pip install labelImg
```

To launch:
```
labelImg
```

Other commands to install *LabelIMG* are listed below.

Linux Ubuntu

Activate your *Python v3* environment and run following commands in *Terminal*:

```
sudo apt-get install pyqt5-dev-tools
sudo pip3 install pyqt5==5.10.1
sudo pip3 install lxml==4.2.4
make qt5py3
```
or:
```
sudo apt-get install pyqt5-dev-tools
sudo pip install pyqt5==5.10.1
sudo pip install lxml==4.2.4
make qt5py3
```

To launch:
```
python3 labelImg.py
```
or:
```
python labelImg.py
```

Windows

Follow next few steps on how to install *LabelIMG* on Windows.

- Download and install *Anaconda* for *Python v3* from official resource.
- Download and extract zip file with *LabelImg* tool from official repository into new folder with name *labelimg* into the Disc (C:).

- Open *Anaconda Prompt* and go to the *labelimg* directory and type in:

```
pyrcc5 -o libs/resources.py resources.qrc
```

- To launch:

```
python3 labelImg.py
```

or:

```
python labelImg.py
```

Mac

Follow next few steps on how to install *LabelIMG* on Mac.

Homebrew. The easiest way to install *LabelIMG* tool on Mac is with Homebrew. If you don't have Homebrew installed, use following command in *Terminal* (zoom in and copy-paste):

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

Once Homebrew is installed type in *Terminal* following:

```
brew install qt
brew install libxml2
make qt5py3
```

To launch:

```
python3 labelImg.py
```

or:

```
python labelImg.py
```

Pip. Or, it is possible to use *pip.* Type in following commands in *Terminal*:

```
pip3 install pyqt5 lxml
make qt5py3
```

or:

```
pip install pyqt5 lxml
make qt5py3
```

To launch:

```
python3 labelImg.py
```

or:

```
python labelImg.py
```

Hot-keys

Ctrl + u	Load all of the images from a directory
Ctrl + r	Change the default annotation target directory
Ctrl + s	Save
Ctrl + d	Copy the current label and rectangle box
Space	Flag the current image as verified
w	Create a rectangle box
d	Next image
a	Previous image
del	Delete the selected rectangle box
Ctrl++	Zoom in
Ctrl--	Zoom out
↑→↓←	Keyboard arrows to move selected rectangle box

Useful Links

Check out additional links with other useful and free resources for data labelling that you might find great for your future work:

[1] LabelIMG – desktop, **chosen for this course**, annotations in **YOLO format**

[2] VGG Image Annotator – web-based, annotations in JSON or CSV file

[3] supervise.ly – web-based, advanced options, variety of formats

[4] CVAT – web-based, supports video, annotations in YOLO and other formats

[5] OpenLabeler – desktop, annotations in Pascal VOC format in XML file

[6] RectLabel – desktop, Mac application, annotations in YOLO and other formats

[7] imglab – web based, annotations in Pascal VOC and other formats