

## Quick start: landmark detection

paper **arXiv.1812.01584**

### Install DELF library

To be able to use this code, please follow [these instructions](#) to properly install the DELF library.

### Download Oxford buildings dataset

To illustrate detector usage, please download the Oxford buildings dataset, by following the instructions [here](#). Then, create the file `list_images_detector.txt` as follows:

```
# From tensorflow/models/research/delf/delf/python/examples/  
echo data/oxford5k_images/all_souls_000002.jpg >> list_images_detector.txt  
echo data/oxford5k_images/all_souls_000035.jpg >> list_images_detector.txt
```

### Download detector model

Also, you will need to download the pre-trained detector model:

```
# From tensorflow/models/research/delf/delf/python/examples/  
mkdir parameters && cd parameters  
wget http://storage.googleapis.com/delf/d2r_frcnn_20190411.tar.gz  
tar -xvzf d2r_frcnn_20190411.tar.gz
```

**Note:** this is the Faster-RCNN based model. We also release a MobileNet-SSD model, see the [README](#) for download link. The instructions should work seamlessly for both models.

### Detecting landmarks

Now that you have everything in place, running this command should detect boxes for the images

`all_souls_000002.jpg` and `all_souls_000035.jpg`, with a threshold of 0.8, and produce visualizations.

```
# From tensorflow/models/research/delf/delf/python/examples/  
python3 extract_boxes.py \  
--detector_path parameters/d2r_frcnn_20190411 \  
--detector_thresh 0.8 \  
--list_images_path list_images_detector.txt \  
--output_dir data/oxford5k_boxes \  
--output_viz_dir data/oxford5k_boxes_viz
```

Two images are generated in the `data/oxford5k_boxes_viz` directory, they should look similar to these ones:

 DetectionExample1  DetectionExample2

### Troubleshooting

`matplotlib`

matplotlib may complain with a message such as no display name and no \$DISPLAY environment variable . To fix this, one option is add the line backend : Agg to the file .config/matplotlib/matplotlibrc . On this problem, see the discussion [here](#).