Detectron2

Installing detectron2 on windows or linux (Date : 4th October 2021)

For installing pycoco tools first make sure to install python dev

```
sudo apt-get install python3-dev
```

For installing pycocotolls

```
pip install 'git+https://github.com/philferriere/cocoapi.git#subdirectory=PythonAPI'
```

And then finally detectron2

```
pip install pyyaml==5.1
pip install torch==1.9.0+cu102 torchvision==0.10.0+cu102 -f https://download.pytorch.org/whl/torch_stable.html
python -m pip install 'git+https://github.com/facebookresearch/detectron2.git'
```

python version : 3.9.6

pip version : 21.1.2

▼ **Update 9th October (Google colab libcuart missing file error)-[Fixed]**

Error with Installation

```
ImportError: libcudart.so.10.2: cannot open shared object file: No such file or
directory site:stackoverflow.com
```

In order for detectron 2 to work on google colab

Instead of this

```
!pip install pyyaml==5.1
# This is the current pytorch version on Colab. Uncomment this if Colab changes its pytorch version
# !pip install torch==1.9.0+cu102 torchvision==0.10.0+cu102 -f https://download.pytorch.org/whl/torch_stable.html

# Install detectron2 that matches the above pytorch version
# See https://detectron2.readthedocs.io/tutorials/install.html for instructions
!pip install detectron2 -f https://dl.fbaipublicfiles.com/detectron2/wheels/cu102/torch1.9/index.html
# exit(0)  # After installation, you need to "restart runtime" in Colab. This line can also restart runtime
```

Use this

```
DatasetCatalog.list() - lists all registered dataset instances.
DatasetCatalog.get('coco_instance_name')
DatasetCatalog.remove('coco_instance_name')
DatasetCatalog.clear()
```

Location in local machine :

D:\Working Directory Linux\CarDamageAnalysis_2_0_1\Playground-Detectron.ipynb

Conversion of image to black and white when storing the image

MRCNN Benchmark (Obsolete) No one is using this anymore

▼ Content

Github Link : https://github.com/facebookresearch/maskrcnn-benchmark

Folder repo : ~/Amos/python-virtual-env/maskrcnn-benchmark

Installing conda on Ubuntu

https://www.digitalocean.com/community/tutorials/how-to-install-anaconda-on-ubuntu-18-04-quickstart

Note : This link might change https://repo.anaconda.com/archive/Anaconda3-2020.02-Linux-x86_64.sh .Please make sure that you are staying upto date

Installation procedure

```
https://github.com/facebookresearch/maskrcnn-benchmark/blob/main/INSTALL.md
```

Note in the installation procedure that he provided , you need to change the pytorch installation to this

```
conda install pytorch torchvision cudatoolkit=10.0 -c pytorch-nightly
```

OR

It would be good if we also have GCC > 4.9 ideally

```
virtualenv mrcnn_benchmark_env
source mrcnn_benchmark_env/bin/activate

# maskrcnn_benchmark and coco api dependencies
pip install ninja yacs cython matplotlib tqdm opencv-python torch
```

```
# install pycocotools
git clone https://github.com/cocodataset/cocoapi.git
cd cocoapi/PythonAPI
python setup.py build_ext install

cd ../..

# install cityscapesScripts
git clone https://github.com/mcordts/cityscapesScripts.git
cd cityscapesScripts/
python setup.py build_ext install


# install PyTorch Detection
cd ../..
git clone https://github.com/facebookresearch/maskrcnn-benchmark.git
cd maskrcnn-benchmark

# the following will install the lib with
# symbolic links, so that you can modify
# the files if you want and won't need to
# re-build it
python setup.py build develop
```

Colab file:https://colab.research.google.com/drive/16jcaJoc6bCFAQ96jDe2HwtXj7BMD_-m5#scrollTo=PIbAM2pv-urF

For the official documentaion : https://detectron2.readthedocs.io/en/latest/tutorials/datasets.html#update-the-config-for-new-datasets

For fixing classes

```
from detectron2.data import MetadataCatalog
MetadataCatalog.get("my_dataset").thing_classes = ["person", "dog"]
```

in collab fil e

MetadataCatalog.get("balloon_" + d).set(thing_classes=["balloon"])

Converting Baloon dataset via region data to