

# HDRModelTest

February 5, 2021

```
[1]: import matplotlib.pyplot as plt
import numpy as np

from pathlib import Path
from PIL import Image

from sample.model import HDRModel
from trainModel import getSamples
```

```
[7]: def plt2Images(imgArr1, title1, imgArr2, title2):
    f, axarr = plt.subplots(1, 2)
    axarr[0].imshow(imgArr1, cmap="Greys_r")
    axarr[0].set_title(title1)
    axarr[1].imshow(imgArr2, cmap="Greys_r")
    axarr[1].set_title(title2)
    plt.show()

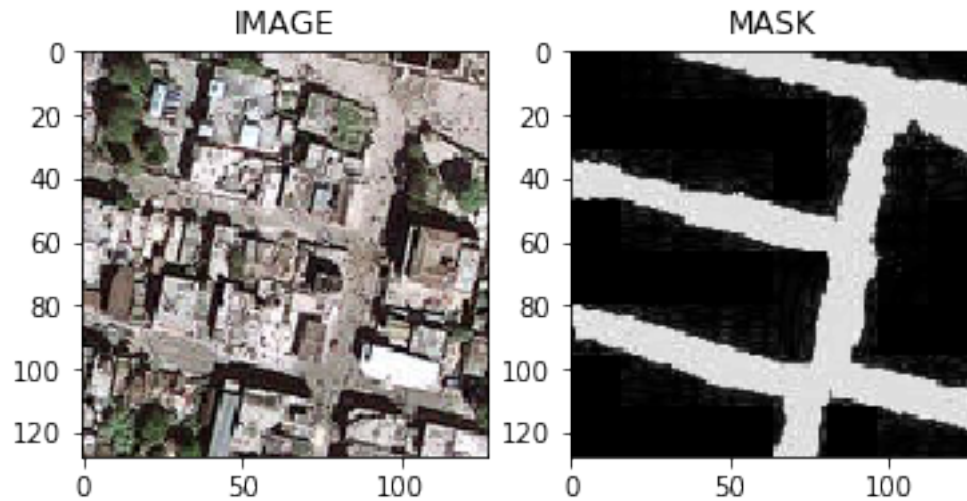
SAMPLE_FOLDER = "tempTrain"
TEST_FOLDER   = "testTemp"
```

## 1 Pull in paired slices and masks

```
[12]: (xTrain, yTrain) = getSamples(Path(SAMPLE_FOLDER))
print(xTrain.shape)
print(yTrain.shape)
```

```
(2, 128, 128, 3)
(2, 128, 128)
```

```
[13]: plt2Images(xTrain[0], "IMAGE", yTrain[0], "MASK")
```



```
[14]: xDim = xTrain[0].shape[0]
      yDim = xTrain[0].shape[1]

      shape = (xDim, yDim, 3)
```

## 2 Load Model: VGG16/Random Forest

```
[15]: model = HDRModel(shape=shape)
```

## 3 Fit Model

```
[16]: model.fit(xTrain, yTrain)
```

```
[Parallel(n_jobs=-1)]: Using backend ThreadingBackend with 4 concurrent workers.
[Parallel(n_jobs=-1)]: Done 42 tasks      | elapsed: 10.4s
[Parallel(n_jobs=-1)]: Done 50 out of 50 | elapsed: 12.2s finished
```

## 4 Load Test Images

```
[17]: testPaths = [pth for pth in Path(TEST_FOLDER).iterdir()]
      print(len(testPaths))
```

```
[21]: image = np.array(Image.open(testPaths[2]))
      pred = model.predict(image)

      plt2Images(image, "INPUT", pred, "PREDICTION")
```

```
[Parallel(n_jobs=4)]: Using backend ThreadingBackend with 4 concurrent workers.
[Parallel(n_jobs=4)]: Done 42 tasks      | elapsed:    0.4s
[Parallel(n_jobs=4)]: Done 50 out of 50 | elapsed:    0.4s finished
```

