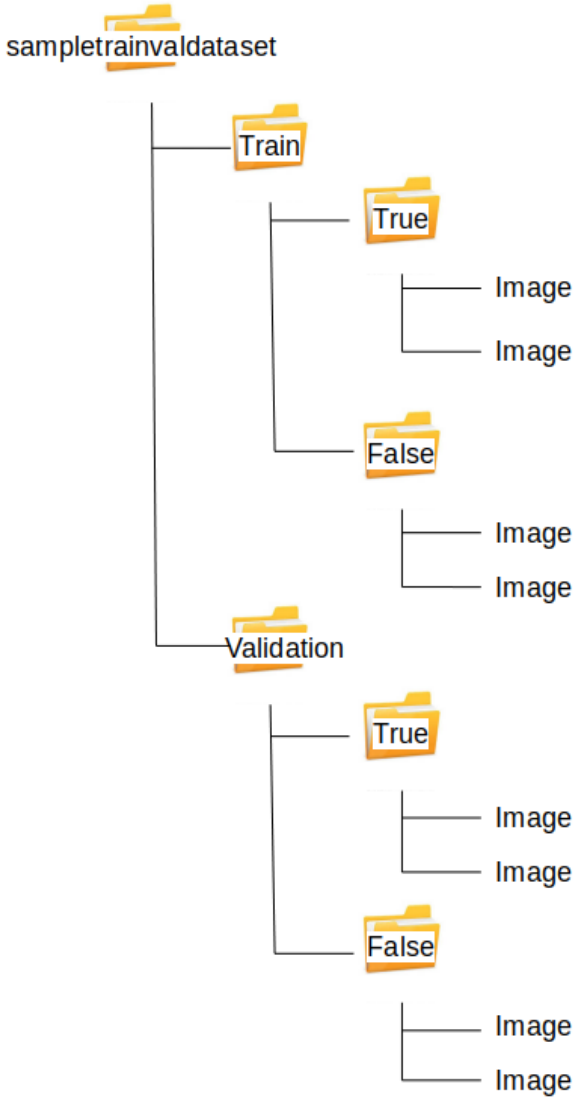
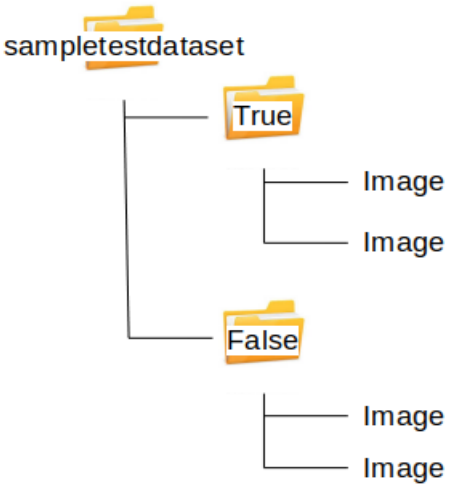
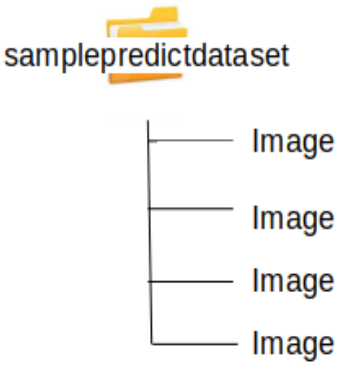
Directory Structures

True contains Defective samples and **False** contains Non Defective samples







cmpt_progs

Activate environment

```
$ conda activate pytorch
```

Move to working directory

```
$ cd pcb_nitk/cmpt_pytorch
```

Arguments

- --*dir* :Path of dataset
- --*modelname* :Name to be assigned to trained model. Should not include extension. Model is stored in .pth format
- --*epochs* :Number of epochs to train for
- --*modelweight* :model weights to be used for testing or predicting. Should not include extension
- --*opdir* :Output directory for predictions. Make sure that directory does not already exist else prgram will throw error.

Training

```
$ python3 cmpt_exp14.py --dir ../sampletrainvaldataset --modelname abc --epochs 1000
```

The model weight gets saved in the *checkpoints* directory

Testing

```
$ python3 cmpt_exp14_test.py --dir ../sampletestdataset --modelweight abc
```

Prediction

```
$ python3 cmpt_exp14_predict.py --dir ../samplepredictdataset --modelweight abc --opdir
op
```

dilated_dense_progs

Activate environment

```
$ conda activate TK_GPU
```

Move to working directory

```
$ cd pcb_nitk/dilated_dense_progs
```

Arguments

- --*dir* :Path of dataset
- --*modelname* :Name to be assigned to trained model. Should not include extension. Model is stored in .h5 format
- --*epochs* :Number of epochs to train for
- --*modelweight* :model weights to be used for testing or predicting. Should not include extension
- --*opdir* :Output directory for predictions. Make sure that directory does not already exist else prgram will throw error.

Training

```
$ python3 dilated_dense_train.py --dir ../sampletrainvaldataset --modelname abc --
epochs 300
```

The model weight gets saved in the *checkpoints* directory

Testing

```
$ python3 dilated_dense_test.py --dir ../sampletestdataset --modelweight abc
```

Prediction

```
$ python3 dilated_dense_predict.py --dir ../samplepredictdataset --modelweight abc --
opdir op
```

Example for use as a module

```
from pcbnitk import cmptmodel, Model
from PIL import Image as pil_image
import os

model = cmptmodel(1,Model)
a = pil_image.open('../samplepredictdataset/4.tif')
a = model.predict(a)
print(a)
```

Ouput

```
$ nondefective
```

Arguments

cmptmodel
First argument can take one of three values, 1, 2 and 3. The numbers indicate different weights

Path for the module

C:\\ Users\\ PixelLS\\ anaconda3\\ envs\\ pytorch\\ lib\\ site-packages