# CTI One Production Sample Code

## Deep Learning Modules

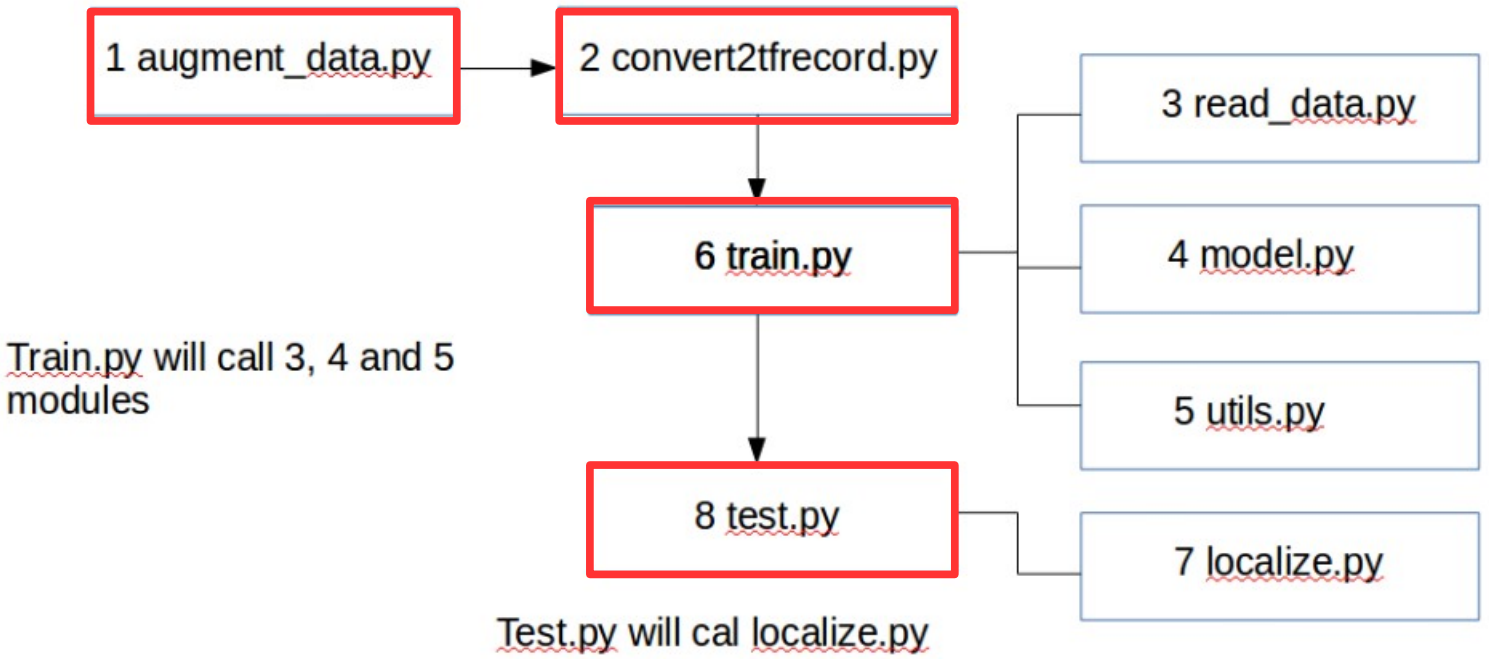

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Table 1. Deep Learning Function Module Testing

| Name of Module | Description | Execution and Application |
|---|---|---|
| 1 augment_data.py | Augment cropped raw image data including Gaussian blur, motion blur, and Rotation to produce 20 new images. | $ python augment_data.py<br>Note: raw data set directory path can be changed in program |
| 2 convert2tfrecord.py | Convert image data set to tfrecord file. | $ python convert2tfrecord.py |
| 3 read_data.py | Function of read data from tfrecord. | Called by train.py |
| 4 model.py | 3 models in model.py, lenet_advanced is used to train in this project. | Called by train.py |
| 5 utils.py | Function of calculating loss and accuracy of training set | Called by train.py |
| 6 train.py | Train the model using training data set. | $ python train.py |
| 7 localize.py | Localize the traffic signs by pre-trained model. | Called by test.py |
| 8 test.py | Deploy and test our trained model by reading image from real enviornment. | $ python test.py |