31_March_Update

1. Inference runs over the following layers were performed -
   Trained model = Mobilenetv2 encoder; trained on 10K images; 5 epochs; bs=16; decoder_width=0.4

   a. **Decoder.conv2 - Google colab; python**

```
time_taken for in 509 / 512 in batch 4 = 11.198822736740112
time_taken for in 510 / 512 in batch 4 = 11.252969980239868
time_taken for in 511 / 512 in batch 4 = 11.248186111450195
100% 1/1 [8:01:57<00:00, 28917.36s/it]
        a1,         a2,         a3,        rel,        rms,     log_10
    0.6002,     0.8481,     0.9324,     0.2386,     0.6479,     0.1162

Test time 28917.36258006096 s
```

   b. **Decoder.up3.convB - Google colab; python**

```
time_taken for in 60 / 64 in batch 4 = 73.58386158943176
time_taken for in 61 / 64 in batch 4 = 73.33791089057922
time_taken for in 62 / 64 in batch 4 = 73.27095007896423
time_taken for in 63 / 64 in batch 4 = 73.93231463432312
100% 1/1 [6:39:33<00:00, 23973.12s/it]
        a1,         a2,         a3,        rel,        rms,     log_10
    0.5570,     0.8312,     0.9221,     0.2427,     0.6284,     0.1126

Test time 23973.118018865585 s
```

   c. **Decoder.up1.ConvA - Local; C++ extension**

```
Time taken for iteration:253 / 256 in batch:4 is:21
Time taken for iteration:254 / 256 in batch:4 is:20
Time taken for iteration:255 / 256 in batch:4 is:20
100%|
                | 1/1 [6:40:55<00:00, 24055.35s/it]
        a1,         a2,         a3,        rel,        rms,     log_10
    0.3260,     0.6678,     0.8798,     0.4597,     0.7863,     0.1592

Test time 24055.347340106964 s
```

d. **Decoder.up2.ConvB - Local; C++ extension**

```
Time taken for iteration:125 / 128 in batch:4 is:21
Time taken for iteration:126 / 128 in batch:4 is:21
Time taken for iteration:127 / 128 in batch:4 is:20
100%|
                | 1/1 [3:43:54<00:00, 13434.54s/it]
        a1,          a2,          a3,         rel,         rms,      log_10
    0.4987,      0.7584,      0.9173,      0.3303,      0.6683,      0.1241
```

2. Kindly refer to the google sheet below for updates on layer's inference error metrics: (along with the scaling factor used for each layer's image and kernel tensors)
   https://docs.google.com/spreadsheets/d/1tmXCuR8P1yGrYK8_bC07wBkrz_x6DhPl-a2OtFICZnw/edit?usp=sharing

   The script for google colab run is provided in the github repo:
   https://github.com/bALAJi-aDItHYa/MBM_implementation.git