

Mount google drive

In []:

```
from google.colab import drive
drive.mount('/content/drive')
```

Mounted at /content/drive

In []:

```
cd drive/MyDrive/
```

/content/drive/MyDrive

In []:

```
cd "CSE472: Computer Vision"/"Assignment 2"
```

/content/drive/MyDrive/CSE472: Computer Vision/Assignment 2

Test the fine-tuned model

In []:

```
from main import Tester
```

In []:

```
epochs = 60
batchSize = 16
learningRate = 1e-6

#trainer = Trainer(epochs, batchSize, learningRate)
#trainer.train()

tester = Tester(batchSize, "finetunedweight.pth")
tester.test()
```

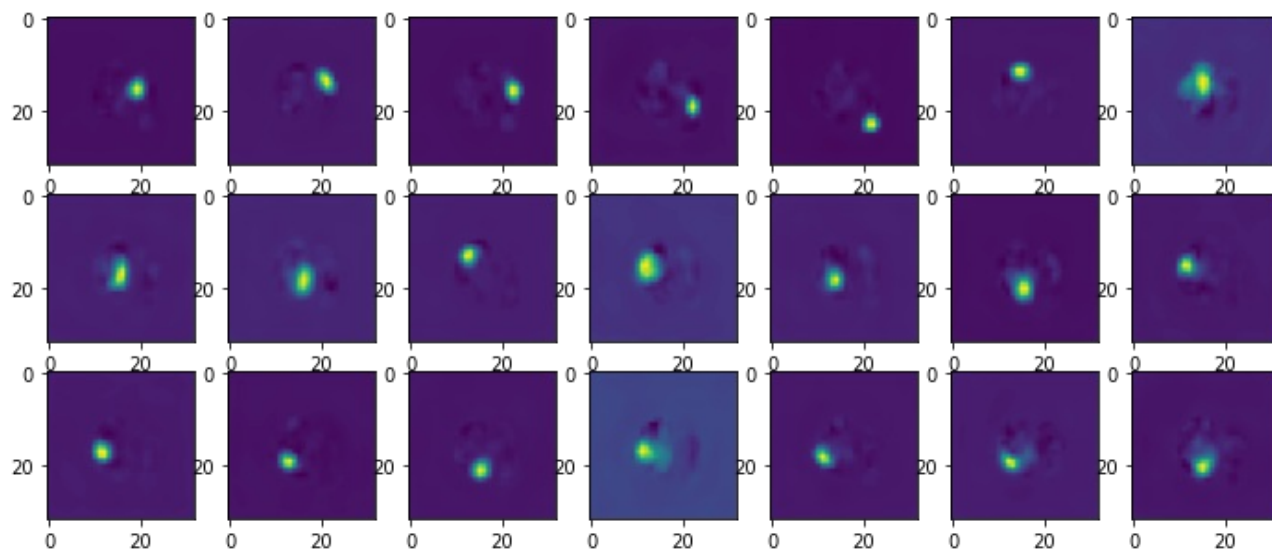
Finish build model.

Testing...

Obman_dataset/test/rgb/106.jpg

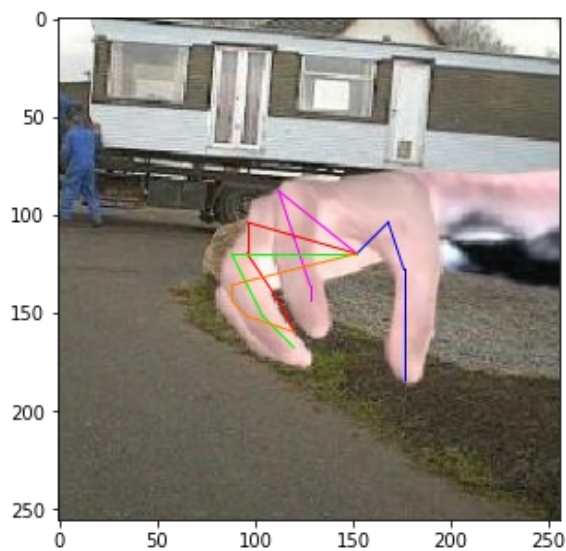
Obman_dataset/test/meta/106.pkl

Testing 106.jpg heatmap



Testing 106.jpg heatmap

106.png 106.jpg heatmap



The error of 106.jpg is: 9.655019

Testing 500 images...

100%|██████████| 500/500 [02:25<00:00, 3.44it/s]

The average error of the test dataset is: 21.036513

Discussion

For fine-tuning the model, I decided to use

```
epochs = 50
batchSize = 32
learningRate = 1e-6
```

The skeleton error of **106.jpg** image improves from **11.913605** down to **9.655019**. In this image, the shape of the skeleton looks more natural compared to the original one.

The overall error of the entire test data set also improves, from **27.095151** to **21.036513**.

The behavior of the loss function could be found in the problem 2 source code, where it plots 2 diagrams showing how the loss was changing with increasing epochs.

As one could notice, MSE loss function on the train dataset still has a pretty high gradient, meaning it has not reached a plateau yet. However, MSE loss function on the test dataset starts to converge after around 35 epochs, so I decide to stop the training at 50 epochs to prevent overfitting.