We labeled all of the images and prepare the dataset for training process. Before starting training process, we had a decision point.

- **Option I** is training the network from scratch. We have only 4859 images and deep network(We used VGG16, which of the most known deep network for image classification. ) and this network can easily cause over-fitting(memorizing the train images but fails on test images).

- **Option II** is training the network using a pre-trained network (We used VGG16 trained on PASCAL VOC dataset, one of the best dataset used for image segmentation evaluation.) But the final results are coarse than we need. Due to the fact that the pre-trained network had been trained with a very different dataset.

We have chosen the second option and fine tuned the network with the data that you provided us. We need more data. You already have been provided us the dataset which has 3 subject(each has several left/right sequences and as mentioned before total 4859 images) Can you provided us at least 10 more subject and without a fixed background. He fixed background is falsifying our network and also using a fixed background is not common in the literature of deep learning domain.