

Figure 7: Architecture of the VGG network.

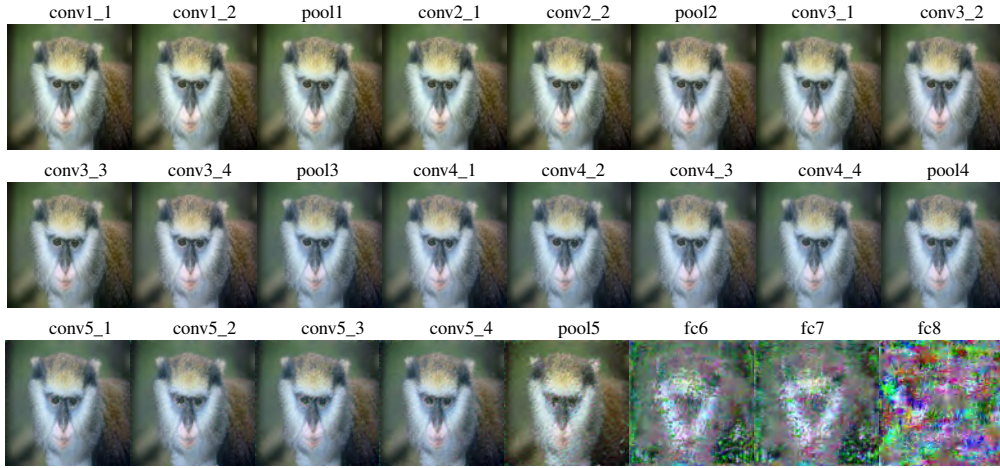


Figure 8: **Reconstructions of the monkey from each layer of the random weight CNN, ranVGG.** The monkey image is well reconstructed from activations of any of the 16 convolutional layers after the rectifier and the 5 average pooling layers, and we could still see the rough contours from the first two fully connected layers.

287 Figure 9 shows the variations on one example image (the girl image at Figure 2). As compared with
 288 the VGG with purely random weights, ranVGG, the VGG with stacked random weights, exhibits
 289 lower variations and lower reconstruction distances. As compared with the trained VGG, both stacked
 290 ranVGG and VGG with purely random weights exhibit lower reconstruction distance with lower
 291 variations. ranVGG demonstrates a more stable and high performance for the inversion task.

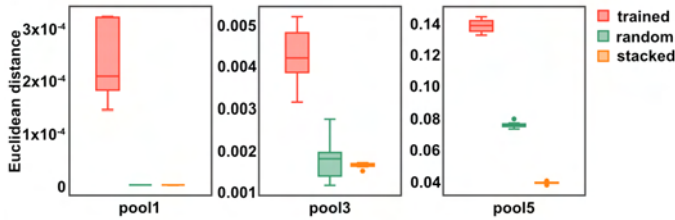


Figure 9: Variations in samples on the girl image, with maximum, minimum, mean and quartiles.

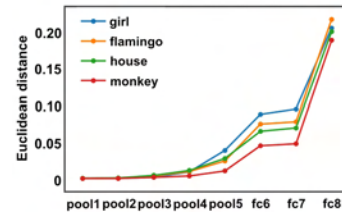


Figure 10: Mean Euclidean distances on ranVGG.