Coursework 6: U-net

1. **U-net Network:** Implement the U-net network shown in Figure 1.a for the reconstruction of façade images from rectified images.

   On Moodle, we provide you a code snippet to load the dataset. The dataset has three folders: training, test, validation. Use the training images to train the network. After the training, choose four rectified images from the test folder and use the trained network to reconstruct the façade images. Plot the reconstructed images along the ground truths.
2. **Skip Connections:** Keep skip connections shown in Figure 1.b and remove the other skip connections. Train the U-net with the new structure. After the training, reconstruct the façade images using the same inputs as part 1. Plot the reconstructed images along the results of part 1 and ground truths. An example result plot is given in Figure 2.

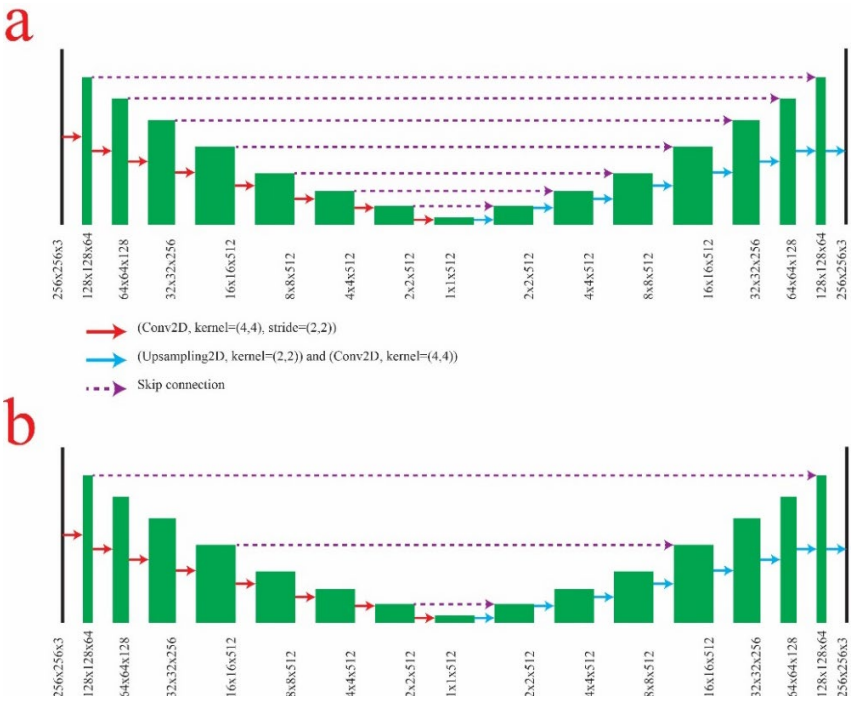

Figure 1. Structure of the U-net

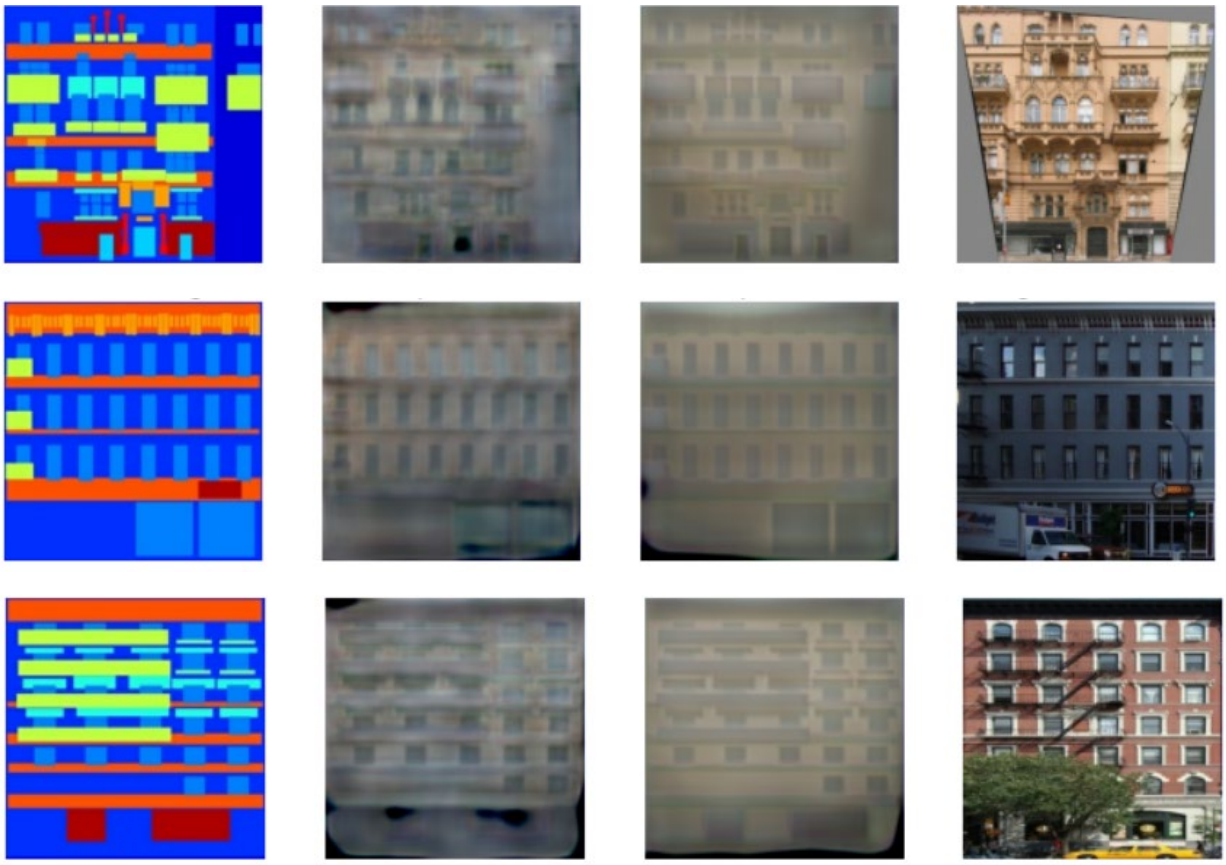

Figure 2. An example plot showing three different samples (in three rows) and results. From left to right: 1) rectified image as input, 2) prediction of the network given in Fig. 1a, 3) prediction of the network given in Fig. 1b, 4) corresponding ground-truth image.