

Code for our SIGGRAPH Asia Paper Data-driven Interior Plan Generation for Residential Buildings

1. Configuration

- Python 3.6
- PyTorch 0.4.0
- Visual Studio 2013
- Qt 5.5.1

2. Creating the dataset

(1) Download the dataset from our paper homepage;

(2) Create a directory named `dataset` under the root directory, and divide the dataset into `dataset/train` and `dataset/val`;

(3) Run `python write_pickle.py`, and this should create a new directory, `pickle`, under the root directory.

3. Training the models

We provide four training scripts: `train_living.py`, `train_continue.py`, `train_location.py` and `train_wall.py` that you can find in the folder `Living`, `Continue`, `Location`, and `Wall`, respectively. The neural networks are described in detail in our paper.

4. Synth floor plans

1) Move the trained models into the folder `synth/trained_model`;

These trained models includes:

living_fc1_300.pth, living_resnet34_300.pth

continue_fc2_300.pth, continue_resnet34_300.pth

location_up1_100.pth, location_resnet34_100.pth

wall_up1_100.pth, wall_resnet34_100.pth

2) Now, navigate to `/synth`, and run `python synth.py`. The output floor plan is in the folder `synth_output`.

5. Vectorization

To vectorize the floor plans generated by our method, run `python vectorization.py`. This should create a new directory, `synth_vectorization`, under the root directory.

We also provide a GUI tool to visualize the vectorized floor plans.