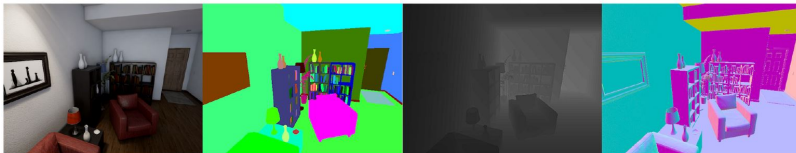


UnrealCV: Connecting Computer Vision to Unreal Engine

W. Qiu and A. Yuille (ARXIV 2016)



- ▶ Computer graphics can generate synthetic images and ground truth (object instance mask, depth, surface normal) while offering the possibility of constructing virtual worlds
- ▶ Building on effort of game industry to create realistic 3D worlds, which a player can interact with
- ▶ Access and modify the internal data structure of games to create virtual worlds, extracting groundtruth and controlling an agent
- ▶ Created a open-source plugin UnrealCV for a popular game engine Unreal Engine 4
- ▶ Linking Caffe with the virtual world to train/test deep networks
- ▶ Diagnosing Faster-RCNN trained on PASCAL by testing it on the virtual world with varying rendering configurations