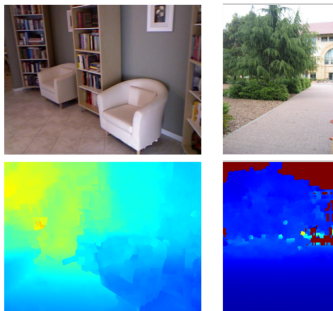


Discrete-Continuous Depth Estimation from a Single Image

M. Liu, M. Salzmann, X. He (CVPR 2014)



- ▶ Single image depth estimation by using a pool of images for which the depth is known
 - ▶ A non-parametric approach to retrieve similar images
- ▶ Formulated as discrete-continuous optimization problem
 - ▶ Continuous: depth of the superpixels
 - ▶ Discrete: relationships between neighboring superpixels (junction potentials to encode occlusions, and smoothness constraints)
- ▶ Inference in a higher order graphical model using particle belief propagation
 - ▶ Unary computed by making use of the images with known depth
 - ▶ Already state-of-the-art with only unary
- ▶ Experiments on both the indoor (NYU v2) and outdoor (Make3D) scenarios