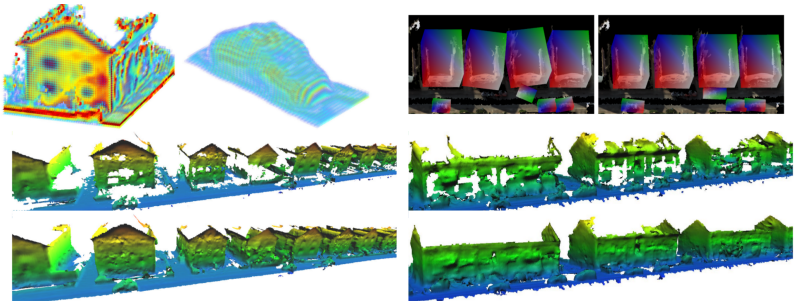


# Exploiting Object Similarity in 3D Reconstruction

C. Zhou, F. Güney, Y. Wang, and A. Geiger (ICCV 2015)



- ▶ Learning volumetric shape models for objects of similar type such as vehicles, buildings to complete missing surfaces and improve the reconstruction
- ▶ Initial reconstruction by SfM and volumetric fusion using TSDF
- ▶ 3D object detection by exemplar SVMs on TSDF representation
- ▶ BCD for joint inference of different blocks:
  - ▶ Optimization of object poses
  - ▶ Assigning proposals to shape models
  - ▶ Learning shape model parameters
- ▶ Improving compared to the initial reconstruction and PMVS2, especially in completeness
- ▶ A novel multi-view reconstruction dataset from fisheye cameras