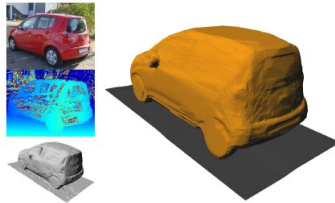


Class Specific 3D Object Shape Priors Using Surface Normals

C. Häne, N. Savinov and M. Pollefeys (CVPR 2014)



- ▶ Dense 3D reconstruction of real world objects
- ▶ General smoothness priors such as surface area regularization can lead to defects
- ▶ Exploit the object class specific local surface orientation to solve this problem
- ▶ Object class specific shape prior in form of spatially varying anisotropic smoothness term
- ▶ Discrete Wulff shapes allow general enough parametrization for anisotropic smoothness
- ▶ Parameters are extracted from training data
- ▶ Directly fits into volumetric multi-label reconstruction approaches
- ▶ Allows a segmentation between the object and its supporting grounds
- ▶ Evaluated on synthetic data and real world sequences