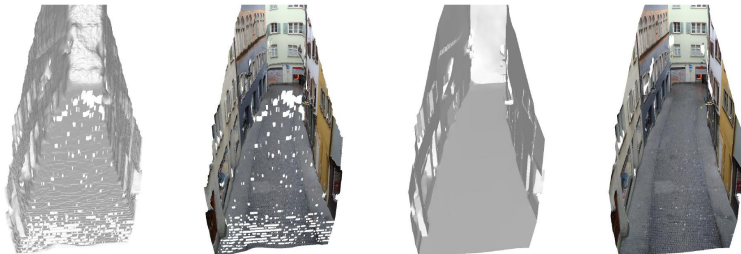


A Patch Prior for Dense 3D Reconstruction in Man-Made Environments

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- ▶ Dense 3D reconstructions suffer from weak and ambiguous observations in man-made environments that can be solved with strong, domain-specific priors
- ▶ Powerful prior directly modeling the expected local surface-structure without the need for higher-order MRFs
- ▶ Using a small patch dictionary as by patch-based representations used in image processing
- ▶ Energy can be optimized using an efficient first-order primal dual algorithm
- ▶ The patch dictionary and priors on dictionary coefficients are known
- ▶ Demonstrate the prior for dense reconstruction of 3D models using stereo and fusion of multiple depth maps on synthetic data and real data