1. Application: retexturing

The proposed method is able to detect lattices reliably. It provides accurate geometric correspondences for the estimation of a warping field between the folded texture and its rectified counterpart, allowing us to edit the texel level of an image’s reflectance layer. We used the intrinsic image decomposition method of Zhao et al. [1] to extract the shading map of an input image. This shading map is then multiplied with the edited reflectance layer to create the final rendering. We present retexturing results in Fig. 1 to supplement the main paper. We can see that our method captures the geometric deformations of the original images well and the renderings look realistic.
Fig. 1: Retexturing based on detected lattices.
2. Visual Result Comparison

The following shows result comparisons on test data provided in Symmetry Detection from Real World Images Competition 2013, termed “Set A” in the main paper. Failure cases are boxed in yellow. Best viewed in color.

Subset “General”

![Subset “General”](image-url)
Ground truth | Park et al. | Ours
---|---|---
trans_12
trans_13
trans_14
trans_15
Park et al.

Ground truth

Ours

trans_24

trans_25

trans_26

trans_27
The following shows result comparisons on test data provided in Symmetry Detection from Real World Images Competition 2013, termed “Set A” in the main paper. Failure cases are boxed in yellow. For scenes with multiple facades, both algorithms were run 3 times to obtain lattice detection on the same façade. An exception is “trans_77”, where no common lattices were detected by both methods after 5 independent runs. Another exception is “trans_82”, where the ground truth texels are of much bigger sizes than the detected ones, making it had to count the detected texels. All exceptions are boxed in red and they were excluded from the evaluation. Results are best viewed in color.

Subset “Urban”

![Subset “Urban”](image-url)
Ground truth  

Park et al.  

Ours

trans_64

trans_65

trans_66

trans_67
Ground truth  |  Park et al.  |  Ours

trans_72

trans_73

trans_74

trans_75
Ground truth  Park et al.  Ours

trans_76

trans_77

trans_78

trans_79
Ground truth 
Park et al. 
Ours

trans_80

trans_81

trans_82

trans_83
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<th>Park et al.</th>
<th>Ours</th>
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The following shows result comparisons on “Set B” test images mentioned in the main paper. The proposed method is more robust against geometric deformations and shading variations. Results are best viewed in color.

Park et al.  

Ours
Park et al.  

Ours
References