hhhhhZhang K, et al. Cross-scale cost aggregation for stereo matching CVPR 2014

Tan X, et al. Soft Cost Aggregation with Multi-resolution Fusion ECCV 2014

Wang Y, et al. Stereo under Sequential Optimal Sampling: A Statistical Analysis Framework for Search Space Reduction CVPR 2014

In this paper, the authors proposed a coarse-to-fine strategy for addressing multi-labeling tasks such as stereo matching and optical flow estimation. The motivation is clearly stated and experiments verified the effectiveness of the method.

The method can be summarized as follows: carry out cost volume filtering in the low resolution images and use the winner-take-all method to find for a pixel in low resolution images the best label which is then used to determine the most like labels of pixels in the original or the next finer resolution.

Using the multi-resolution approach is not new and has been exploited in many studies which do not draw authors’ attention. These studies include: [1] [2] [3] where the cost aggregation results from all resolution are used for generating a more reliable disparity map, and [] [] where the matching results from lower resolution are used to guide disparity searching process in the higher resolution. Note that the methods and idea in [4] is nearly identical to the key idea of this paper.

, then enhance the label candidate pool

Profile of the cost function, most likely label and

Yang Q, et al. A Constant-Space Belief Propagation Algorithm for Stereo Matching CVPR 2010

Min D, et al. [A revisit to cost aggregation in stereo matching: how far can we reduce its computational redundancy?](http://diml.yonsei.ac.kr/~forevertin/ICCV2011_Final.pdf) ICCV 2011

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