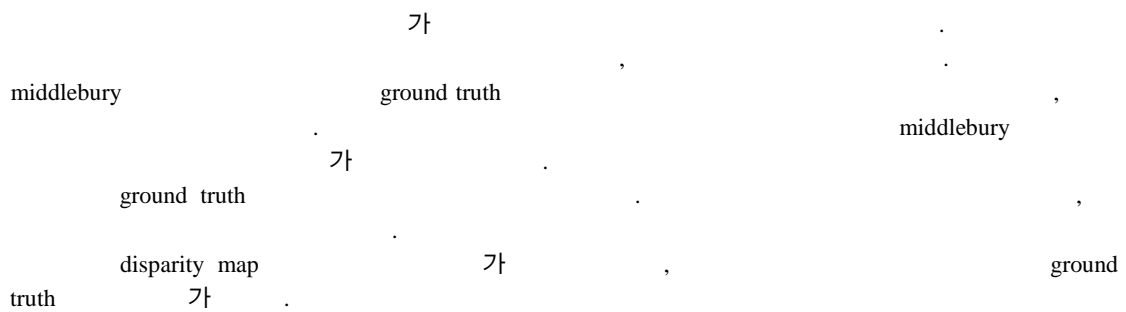


Ground truth

3D
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Time-based Stereo Matching Algorithm for Ground-truth

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1.

human computer interaction(HCI), surveillance, human robot interaction(HRI)

[1] matching cost aggregation, disparity optimization, matching cost

2.

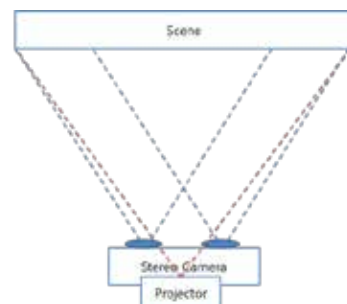
가, ground truth[2], middlebury, ground truth

가, middlebury, [3].

ground truth

disparity map, ground truth, 가

1. Stereo Camera



(1)

3.

$$C_d(p) = \sum_{n \in \{N\}} |I_n(p) - \bar{I}_n(p-d)|$$

I Reference, I' Target, N
 C Cost, Cost
 Disparity Winner-Takes-All
 (WTA)

$$d(p) = \arg \min_{d \in S_d} (C'_d(p))$$

2 matlab
 disparity 256
 gIdx

```

for d=1:256
    ad = 0 ;
    for i = 1 : gIdx
        l = ls(:, :, i);
        r = rs(:, :, i);

        tmp(:, 1:end-d+1, :) = l(:, d:end, :);
        tmp1 = abs(r-tmp);
        ad = ad - ( tmp1(:, :, 1) + tmp1(:, :, 2) + tmp1(:, :, 3) );
    end
    cost(:, :, d) = abs(ad);
end
% toc
[NOT_USE, dispR2L] = min(cost, [], 3);
    
```

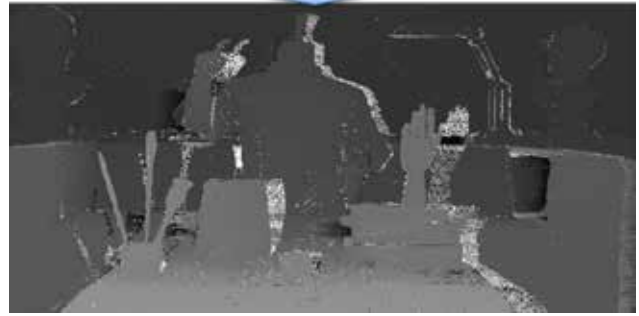
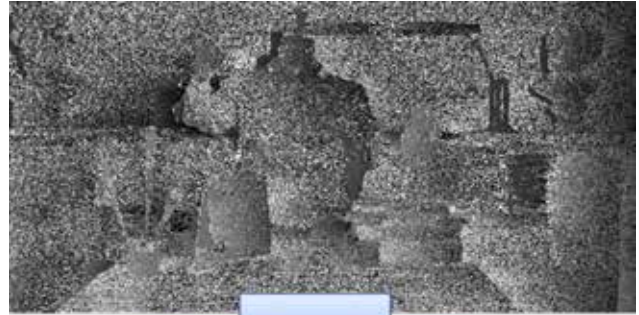
(2) Pseudo Code

4.



(3)

Left-reference Disparity
 truth, disparity map, ground



(4) a. 1 b. 22

5.

ground truth

disparity map

가
 ground truth

Acknowledgement

" ETRI
 [11921-03001, "Beyond
 TV "]"

[1] Scharstein, D., Szeliski, R. "A taxonomy and evaluation of dense two-frame stereo correspondence algorithms," *Int. J. Computer Vision*, vol. 47 (1-3), 2002, pp. 7-42.
 [2] Scharstein, D., Szeliski, R. "High-accuracy stereo depth maps using structured light," *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, Vol. 1, 2003, pp. I/195-I/202
 [3] H. Hirschmuller and D. Scharstein, "Evaluation of stereo matching costs on images with radiometric differences," *IEEE Trans. Pattern Anal. Mach. Intell.*, vol. 31, no. 9, 2009, pp. 1582-1599.