

STEREO IMAGES DIFFERENCES.

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What's in?!

Stereo Block matching:

- Motivation
- Algorithm
- Results
- Conclusion

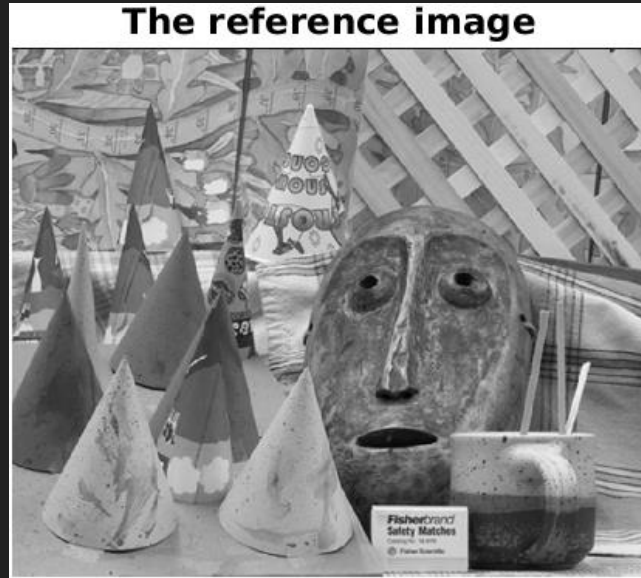
NOW, THE STEREO BLOCK MATCHING ALGORITHM

- Stereo images gives best depth information.
- But before that, we got to find the accurate difference between the two images with respect to each points.
- This would give the information of how far it has shifted.
- Such difference image would yield best disparity map revealing depth information.

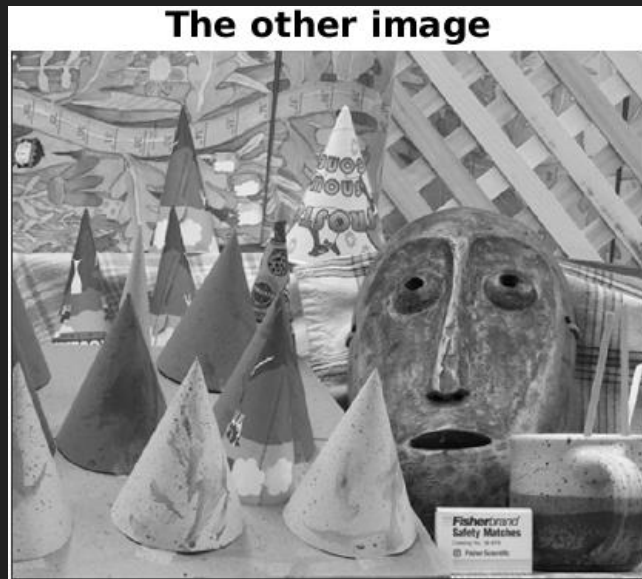
ALGORITHM

1. The left image is taken as the reference after converting the right and left image to grey images.
2. Then we choose the sub region for the right image to be 30(in our case) and the search window size to be 12(in our case).
3. We subdivide the image into blocks based on the subregion size and find the absolute difference for each block.
4. Then the sum of those absolute differences are calculated for each block based on the search region space.
5. Thus the different image is calculated but also disparity map can be calculated.
6. Then we find the direction , plotted as the difference that shows the shift between two images.

THE REFERENCE IMAGE (RIGHT)

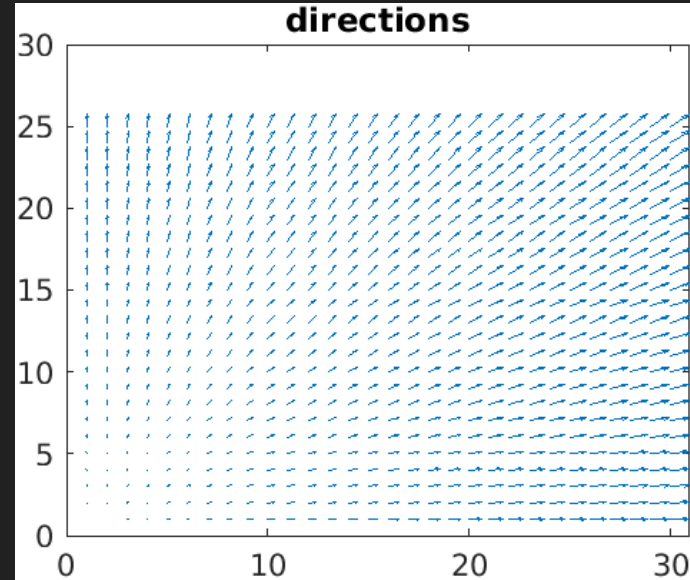


THE OTHER IMAGE



THE DISPARITY MAP AND THE SHIFTS:

The depth map between two images



CONCLUSION FOR BLOCK MATCHING BASED ON SAD:

The difference in shift between two images is very crucial. Better the difference calculation for the corresponding points in both the images, better the depth map would be.

Again, this can be applied for various stereoscopic vision including robotic surgeon.