Detection of Obstacles using Stereo Imaging

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Abstract

This paper presents an implementation of algorithm for detecting obstacles based on stereo vision technique. This algorithm mainly focuses on detection of obstacle and computation of obstacle depth based on stereo matching and disparity map. This technique incorporates several steps such as pre-processing and depth analysis for obstacle detection. In the preprocessing step, Otsu’s thresholding and adaptive thresholding methods are used for efficient detection of obstacles. After computation of obstacles, depth analysis is performed with the help of disparity map. Experimental results are demonstrated giving robust analysis of obstacle detection based on standard stereo dataset.

References

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Index Terms
Computer Science   Image Processing
Keywords

stereo vision; obstacle detection; disparity map generation; depth computation