

Fast Depth Estimation Method from A Pair of Rectified Images

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Abstract

This paper proposes a line segment method to estimate the depth information from a pair of rectified images. The proposed method can achieve real-time and high quality stereo-matching. We first use a simple edge detection to find out the line segments in the reference image and then calculate the color difference of each line segment from a pair of rectified images. Finally, the minimum difference of each line segment is found out as the corresponding points. Unfortunately the line segments matching method is susceptible to cause error in occluded areas, so three methods are developed to refine the depth map. From the experiments, it is proved that the proposed method can accurately estimate the depth information in real-time.

Keyword : depth information, stereo matching, occluded area