

## Visual Search Based Indoor Localization in Low Light via RGB-D Camera

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**Abstract :** Most of traditional visual indoor navigation algorithms and methods only consider the localization in ordinary daytime, while we focus on the indoor re-localization in low light in the paper. As RGB images are degraded in low light, less discriminative infrared and depth image pairs are taken, as the input, by RGB-D cameras, the most similar candidates, as the output, are searched from databases which is built in the bag-of-word framework. Epipolar constraints can be used to relocalize the query infrared and depth image sequence. We evaluate our method in two datasets captured by Kinect2. The results demonstrate very promising re-localization results for indoor navigation system in low light environments.

**Keywords :** indoor navigation, low light, RGB-D camera, vision based

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