

Environmental Visual Features Based Place Recognition in Manufacturing Environment(Conference paper)

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Abstract:

This paper presents a visual features based place recognition method to be used in the computer vision or robotics research fields especially in the localization and navigation algorithm. Many research studies have been conducted on the navigation method for mobile robot (or AGV in the context of manufacturing environment), and introduced precise and accurate place recognition methods. However, we believe that in some situation, rather than precise and accurate recognition, identifying the place through an uncomplicated yet robust recognition method should be good enough for a mobile robot (or AGV) to move and perform its tasks in a manufacturing environment. In our proposed method, the recognition method depends only on the visual features which could be extracted from the environment, and evaluated by using a neural network. Experimental results demonstrate the effectiveness of our proposed method. © 2022, The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd.

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