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Identification of Stairs According to the Transformation of the Shape of the Cross Reference Light Sign

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ABSTRACT

The ability of the mobile robot to recognize the stairs helps to orient it in the stairwell when its goal is to move up the stairs to the next floor of the building. In this work, a simple and easy-to-implement method was proposed, using an archaic but still promising analysis of visual information, analyzing the geometric shape transformation of an indicative cross-light tag formed on the surface of an object. For this purpose, practical experiments were performed, changes in the form of the informative tag were obtained, according to which the computer modeling tool was harmonized. With the help of the tool it is possible to model sets of marker shapes according to the parameters of the stairs that can be triggered into the memory of the mobile robot.

Keywords: *Mobile Robots; Computer Vision; Stair Detection*