

图形、图像、模式识别

导盲系统中的道路斑马线识别方法

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摘要 针对斑马线的特征, 建立了基于图像的导盲辅助设备中道路斑马线的识别方法。引入表征灰度图像对比度的双极系数作为识别的理论基础, 结合形态学方法消除双极系数图像中的噪声, 筛选出具有强烈灰度对比度的道路斑马线区域, 进而采用Radon变换进行特征提取后重建斑马线。通过对54幅道路图像的测试, 该算法识别率达到96.2%。

关键词 [斑马线](#) [双极系数](#) [形态学](#) [Radon变换](#)

分类号

Detection of pedestrian crossing in image-based blind aid devices

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Abstract

A new method to effectively detect pedestrian crossing in the image-based blind aid devices is proposed. Candidate regions of a crossing are selected by careful evaluation of the "bipolarity" which represent the gray level contrast in an image, and the noise of bipolarity image is eliminated by using morphology processing approaches. According to the corresponding relationships between an image and its Radon transform result, pedestrian crossing features, such as number and length of pedestrian crossing stripes, angles in vision field, are extracted in transform domain. This algorithm is proved to be effective with 96.2% accuracy under the test of 54 real crossing images.

Key words [pedestrian crossing](#) [bipolarity](#) [morphology](#) [Radon transform](#)

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