



论文摘要

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ZHONGNAN DAXUE XUEBAO(ZIRAN KEXUE BAN)

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一种基于Radon变换的车牌图像分割和识别方法

汤井田, 黄国祥, 朱德兵

(中南大学资源环境与建筑工程学院, 湖南长沙 410083)

摘要: 从Radon变换的定义出发, 论述了Radon变换检测直线的原理, 并将它应用于车牌图像分割. 在1幅含有车牌的图像中, 进行边缘检测后, 车牌所在矩形框往往是由多条直线组成, 当投影方向与直线方向一致时, Radon变换取局部极大值. 由此, 首先找出Radon变换在 0° 附近的局部极大值, 该值对应于原始图像中的1条接近垂直的直线, 然后, 寻找次局部极大值, 对检测出来的若干条这样的直线聚类, 根据计算结果沿垂直方向剪切原始图像; 同理, 找出Radon变换在 90° 附近的局部极大值, 沿水平方向剪切原始图像. 这样, 可将车牌所对应的矩形从复杂的背景中分割出来.

关键字: Radon变换; 直线检测; 图像分割; 车牌

A method of license plate image segmentation and identification by Radon transformation

TANG Jing-tian, HUANG Guo-xiang, ZHU De-bing

(College of Resources, Environment and Civil Engineering, Central South University, Changsha 410083, China)

Abstract: From the definition of Radon transformation, the principle of line detecting by Radon transformation was stated and was applied in the image segmentation of license plate. Through edge detecting, the rectangle frame of a license plate in a picture always consists of several line edges and while projection direction was in accordance with the line, the value of Radon transformation gets its local maximum. Therefore, we firstly find the local maximum of the Radon transformation near the zero degree, which was corresponded with a vertical line and then find the next local maximum. For all those kind of lines, we can cut the raw image along the vertical direction based on the coordinates representing these lines. In the same way, we can find the local maximum near 90 degree and cut the image along horizontal direction. So, the rectangle was cut out from the complex background.

Key words: Radon transformation; line detecting; image segmentation; license plate

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地 址：湖南省长沙市中南大学 邮编： 410083

电 话： 0731-88879765 传真： 0731-88877727

电子邮箱： zngdxb@mail.csu.edu.cn 湘ICP备09001153号