

A New Algorithmic Approach for Detection and Identification of Vehicle Plate Numbers

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R sum  en anglais This work proposes a method for the detection and identification of parked vehicles stationed. This technique composed many algorithms for the detection, localization, segmentation, extraction and recognition of number plates in images. It is acts of a technology of image processing used to identify the vehicles by their number plates. Knowing that we work on images whose level of gray is sampled with (120×180), resulting from a base of abundant data by PSA. We present two algorithms allowing the detection of the horizontal position of the vehicle: the classical method "horizontal gradients" and our approach "symmetrical method". In fact, a car seen from the front presents a symmetry plan and by detecting its axis, that one finds its position in the image. A phase of localization is treated using the parameter MGD (Maximum Gradient Difference) which allows locating all the segments of text per horizontal scan. A specific technique of filtering, combining the method of symmetry and the localization by the MGD allows eliminating the blocks which don't pass by the axis of symmetry and thus find the good block containing the number plate. Once we locate the plate, we use four algorithms that must be realized in order to allow our system to identify a license plate. The first algorithm is adjusting the intensity and the contrast of the image. The second algorithm is segmenting the characters on the plate using profile method. Then extracting and resizing the characters and finally recognizing them by means of optical character recognition OCR. The efficiency of these algorithms is shown using a database of 350 images for the tests. We find a rate of lo-calization of 99.6% on a basis of 350 images with a rate of false alarms (wrong block text) of 0.88% by image.

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