

SPEED SIGN RECOGNITION USING RADIAL BASIS FUNCTION AND THRESHOLD RULE

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ABSTRACT

Speed limit signs provide drivers with very valuable information about the speed, in order to make driving safer and easier. Besides, it reminds drivers about the allowable speed limit in a specific road. In this paper, an approach for detecting speed limit signs is proposed. The developed system consists of two main processes namely detection and recognition. The first stage, for the detection, speed limit signs are first detected before each of the samples are verified and recognized. The second stage, for the classification, uses a Radial Basis Function (RBF) and Threshold Rule where the output from image processing which will be in total white pixel will be use as an input to RBF. There are processes of image processing and image recognition. In image processing stage, few methods will involve, such as converting the RGB image into gray scale, edge detection and morphological operation. 15 samples of each speed limit signs were used as training samples for radial basis function. In order to see whether the both method mention above can recognized the image correctly, another 29 images were used as testing. From the result obtained, it was shown that the Threshold rule can generally recognized the speed limit better than RBF. This is because it can recognized up to 86.44% correctly while RBF only recognized up to 81.36%. The conclusion of this paper will show which among the digit recognition and algorithms using MATLAB will produce the best result when looking for a specific digit.

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