Abstract

The optical character recognition models are the algorithms to detect and extract the text from the image data. The optical character recognition (OCR) algorithms and the applications have gained the popularity among the IT researchers in the recent years. The OCR models have been utilized with the paper text scanning, natural scene text recognition, online sharing image tagging, etc. In this paper, the model has been proposed for the natural scene text recognition, which has been found the greater popularity over the years. The natural text recognition model has been found efficient in the case of automatic text recognition from the sign boards, LED boards and other such information collection from other visual sources. The proposed model specifically designed to work over the LED boards for the detection and extraction of the LED text, which is written in the combination of the small LED lights to form the shape of the character. The proposed model has been designed with the combination of the shape recognition, text region detection and character recognition method using the maximally stable extremal regions (MSER), principal component analysis (PCA) and the artificial neural networks (ANN). The proposed model has been designed as the robust text region detection and
localization solution along with the text recognition method. The proposed model has undergone the various experiments for the evaluation of the performance from the various aspects altogether. The proposed solution has performed as per the expectation and outperformed the existing model in the terms of detection and recognition accuracy.

References


Index Terms

Computer Science Networks

Keywords

Text detection, MSER, ANN, PCA, Text localization
OCR using the Artificial Neural Network with Character Localization using Combined PCA and MSER Features