

## Comparative Analysis of Edge Detection Techniques for Extracting Characters

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**Abstract :** Segmentation of images can be implemented using different fundamental algorithms like edge detection (discontinuity based segmentation), region growing (similarity based segmentation), iterative thresholding method. A comprehensive literature review relevant to the study gives description of different techniques for vehicle number plate detection and edge detection techniques widely used on different types of images. This research work is based on edge detection techniques and calculating threshold on the basis of five edge operators. Five operators used are Prewitt, Roberts, Sobel, LoG and Canny. Segmentation of characters present in different type of images like vehicle number plate, name plate of house and characters on different sign boards are selected as a case study in this work. The proposed methodology has seven stages. The proposed system has been implemented using MATLAB R2010a. Comparison of all the five operators has been done on the basis of their performance. From the results it is found that Canny operators produce best results among the used operators and performance of different edge operators in decreasing order is: Canny>Log>Sobel>Prewitt>Roberts.

**Keywords :** segmentation, edge detection, text, extracting characters

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