

## POTHOLE DETECTION IN ASPHALT PAVEMENT IMAGES

The work in this paper is on asphalt pavement images to detect potholes. The work is done in three steps: 1) image segmentation, 2) shape extraction, and 3) texture extraction and comparison. A histogram shape-based thresholding algorithm has been used to separate the defected region from the background by transforming original color images into gray-scale images in the segmentation part.

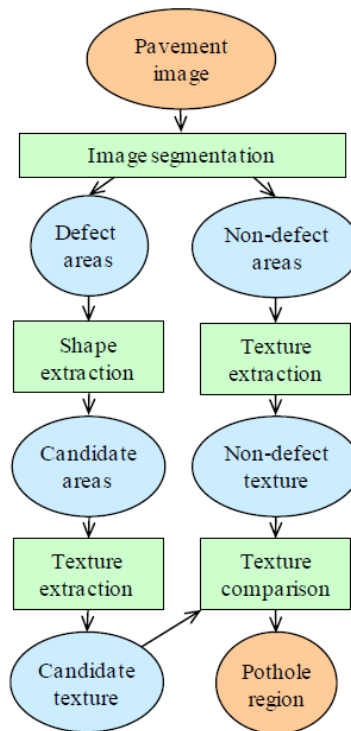


Figure 1. Pothole detection model

After segmenting the defect and non-defect parts, the shape extraction part works on the defected area. For measuring shade of the region, here it puts a threshold value and then shrinks the shade region to minimally connected skeleton where morphological thinning is used. The standard deviation of gray-level intensity values as a statistical measure. It is used to describe the texture of both the inside and the outside region. Finally, it works for both defect and non-defect region and compares the texture.

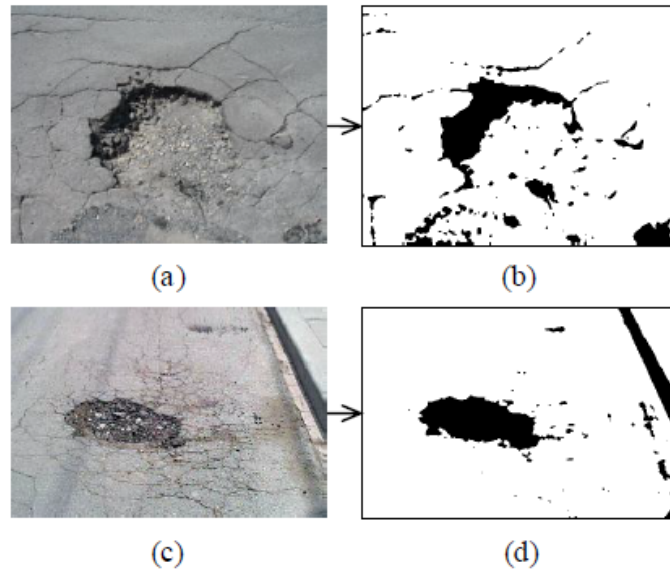


Figure 2. Result of image segmentation for two potholes

This paper's method has segmented both defect and non-defect areas, and our proposed method is for segmenting the damaged region only. Here, the method of shape extraction and texture extraction can be useful by improving for better output.

## REFERENCES

- [1] Koch, C., & Brilakis, I. (2011). Pothole detection in asphalt pavement images. *Advanced Engineering Informatics*, 25(3), 507-515.