AN EFFICIENT AND RELIABLE COARSE-TO-FINE APPROACH FOR ASPHALT PAVEMENT CRACK DETECTION

This research paper presented an exceptionally effective pavement crack detection system that is efficient and reliable. There are four prominent features, such as a new explanation of the cracks focused on the pixels with identical grey-level. The adaptive threshold approach for image segmentation considers the geographic variation, atmospheric conditions, geometric characteristics of cracks, a new concept termed Region of Belief (ROB), and crack detection, which begins with a ROB seed, a novel region growing algorithms proposed. For image segmentation, an enhanced adaptive thresholding algorithm was presented. In order to promote identification, a new design Region of Belief (ROB) was implemented. A novel region growing algorithm was suggested for the identification of defects.
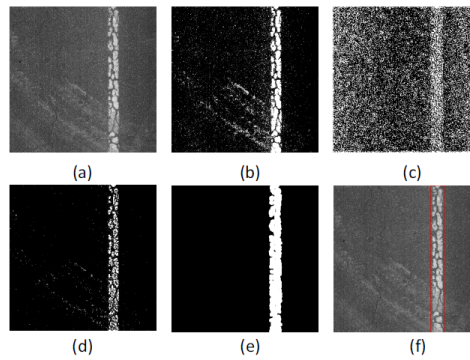

Figure 1. Illustration of process of lane and sign markings removal. (a) the original pavement image, (b) bin map, (c) variance map, (d)fused binary image, (e) further result from morphological processing, (f) final result

The CrackTree and VCrack algorithm were used in this paper. These algorithms detect cracks on the path. However, in our aimed project, it is needed to segment all damages of roads.

REFERENCES

[1] D. Zhang, Q. Li, Y. Chen, M. Cao, L. He, and B. Zhang, "An efficient and reliable coarse-to-fine approach for asphalt pavement crack detection," Image and Vision Computing, vol. 57, pp. 130–146, Jan. 2017, doi: 10.1016/j.imavis.2016.11.018.