AUTOMATIC PAVEMENT CRACK DETECTION BASED ON STRUCTURED PREDICTION WITH THE CONVOLUTIONAL NEURAL NETWORK

This paper proposed a method for pavement crack detection based on structured prediction with CNN. This method is trained and tested on CFD with RGB images and AigleRN with gray-level images and creates the network with CNN's help. Since CNN can extract useful features from raw data, this paper added a structured prediction based on the CNN method to learn a small patch's crack structure within an image to find the full crack on pixel level without preprocessing.

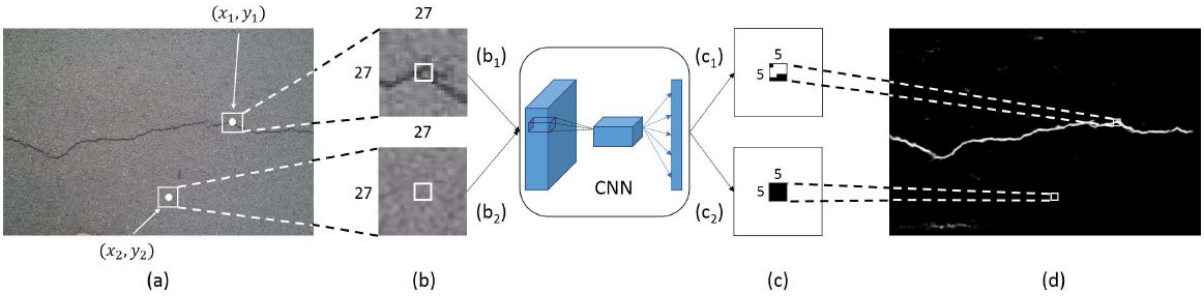

Figure 1. Examples of structured prediction based on CNN

This paper's method can only find the cracks and determine whether the crack is present or not. However, our proposed method is to find any type of road damages, including their shape. So, some improvement is needed to achieve our solution.

REFERENCES

[1] Fan, Z., Wu, Y., Lu, J., & Li, W. (2018). Automatic pavement crack detection based on structured prediction with the convolutional neural network. arXiv preprint arXiv:1802.02208.