Post-Processing Method for Performance Improvement of Aerial Image Parcel Segmentation

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Abstract : In this paper, we describe an image post-processing method to enhance the performance of the parcel segmentation method using deep learning-based aerial images conducted in previous studies. The study results were evaluated using a confusion matrix, IoU, Precision, Recall, and F1-Score. In the case of the confusion matrix, it was observed that the false positive value, which is the result of misclassification, was greatly reduced as a result of image post-processing. The average IoU was 0.9688 in the image post-processing, which is higher than the deep learning result of 0.8362, and the F1-Score was also 0.9822 in the image post-processing, which was higher than the deep learning result of 0.8850. As a result of the experiment, it was found that the proposed technique positively complements the deep learning results in segmenting the parcel of interest.

Keywords : aerial image, image process, machine vision, open field smart farm, segmentation
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