Weekly Report

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***Abstract*—This week I mainly put my effort on improving deep learning methods accuracy of building extraction with post processing and writing project application.**

I. SAR CONTEST

SINCE we tried nearly all fashion neural networks of deep learning methods, we still want to try more post processing ways to refine the output image of deep learning model.

- We tried to remove noise speckle and fill black holes in buildings last week. The result shows about 0.5% improvement, which is not obvious.
- This week, we use some morphology operations, like dilating and eroding to refine all building contours. This way shows some improvements on the 10 images. We handed in this version of code and waited for grading.

Fig. 1 is refined neural network result without morphology operations. Fig. 2 is the result with morphology operations.

II. PROJECT APPLICATION

THESE two weeks, we are writing the project application of SAR image detection. This project is aimed to improve detection accuracy with simulation data and build corresponding software.

- Last week, we finished the first version in short time. There are still some drawbacks, like the English characters on images, and unrelated images to SAR target.
- This week, we adjust structure of technical solutions and make them corresponding to key techniches. Besides, we add one research content point about simulation data and SAR image characteristic analysis.
- About project application, I guess it would be more efficient if Prof.Yang discusses about the whole structure with us and settle down basic items at the beginning, just like this weekend we did. In this way, we could improve our efficiency and get content to the point.

Fig. 1: Original result

Fig. 2: Result with morphology operations