Weekly Report

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***Abstract*—This week I mainly put my effort on treating Prof. Marcello and reading a paper about using DNN in building extraction of SAR image.**

I. Paper reading

THE purpose of this study is to develop a universal classification scheme for most of SAR imagery classification tasks. The well-trained DNN model is used to extract building areas from SAR imagery. Extensive validations on different sensors including both spaceborne and airborne SAR sensors have been used to verify the accuracy and efficiency of the proposed scheme.

In this study, a DNN-based scheme for SAR imaging classification is introduced. The focus of this study is to detect building areas using SAR imagery. Efficient FDN and CNN models are trained using advanced deep learning techniques. The proposed method allows researchers with limited SAR knowledge to develop their application in a short time, without considering the characteristics of SAR sensor. The developed classification method is employed to classify SAR imagery obtained by different SAR sensors into building and non-building areas based on the FDN and CNN models. The study results confirm the high efficiency and accuracy of the proposed classification scheme.

Fig. 1 is the Convolutional neural network (CNN) architecture. Fig. 2 is the classification result based on FDN and CNN.

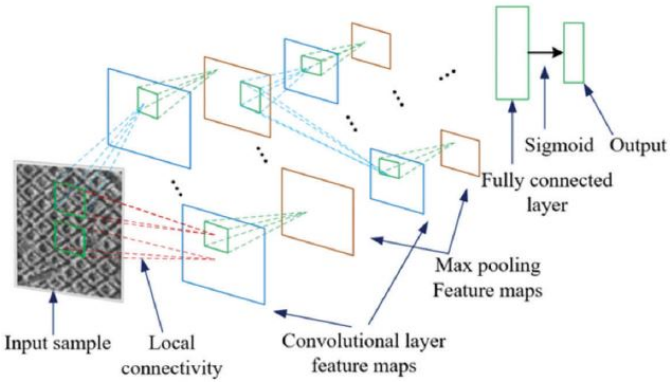

Fig. 1: Convolutional neural network (CNN) architecture

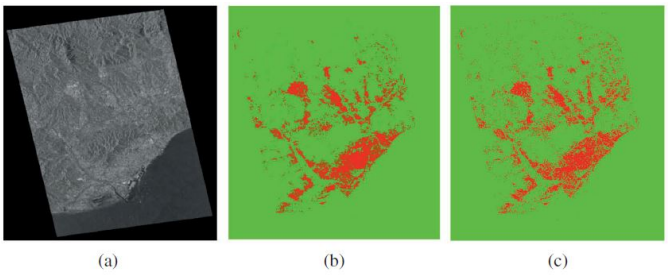

Fig. 2: Classification result