عنوان مقاله:

Feature Fusion Method Based on Local Binary Graph for PolSAR Image Classification

محل انتشار:

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نویسنده:

Mohsen Darvishnehzad - *Faculty of Electrical Engineering Khajeh Nasir Toosi University of Technology Tehran,Iran*

خلاصه مقاله:

The goal of this paper is to propose a method in order to achieve a higher classification rate in Polarimetric Synthetic Aperture Radar (PolSAR) image classification. To do this, a feature fusion method will be proposed in order to map the extracted features of PolSAR images into the new feature space and increase the classification accuracy. In this paper, PolSAR features will be extracted from Convolutional Neural Networks (CNNs) and also Graph Convolutional Networks (GCNs). One of the most important challenges of the GCN is the computational cost of the training process due to computing the adjacency matrix. Therefore, in this article, a mini-GCN will be used. Also, to achieve the best performance of the extracted feature, in this paper, a Local Binary Graph (LBG) feature fusion method will be proposed to fuse the extracted features. So, we extract PolSAR features from the CNN and mini-GCN and use them as the input of the proposed feature fusion method in order to improve the classification rate. The fused features in the new feature space can be classified more accurately than the original feature space. Finally, experimental results illustrate the advantages of mini-GCNs compared with traditional GCNs and the superiority of the proposed feature .fusion method compared traditional CNNs and GCNs

کلمات کلیدی:

Convolutional Neural Networks, Graph Convolutional Networks, PolSAR, mini-GCN, feature fusion