Cover letter

December 5, 2018

MDPI AG

Remote Sensing Editorial Office

St. Alban-Anlage 66, 4052 Basel, Switzerland

Dear Editor of Remote Sensing (MDPI),

I am submitting a manuscript for consideration of publication in Remote Sensing on the special issue "Convolutional Neural Networks Applications in Remote Sensing". The manuscript is entitled "Semantic Segmentation on Remotely-Sensed Images Using Enhanced Global Convolutional Network with Channel Attention and Domain Specific Transfer Learning". We believe that this manuscript is appropriate for the journal specifically on the topic of semantic segmentation on remotely-sensed images. This manuscript has not been published and is not under consideration for publication elsewhere.

The paper aims to propose a novel CNN network for semantic segmentation particularly for remote sensing corpora with three main contributions. First, we propose to apply a recent CNN network call "Global Convolutional Network (GCN)", since it can capture different resolutions by extracting multi-scale features from different stages of the network. Also, we further enhance the network by improving its backbone using larger numbers of layers, which is suitable for medium resolution remotely sensed images. Second, "Channel Attention" is presented into our network in order to select most discriminative filters (features). Third, "Domain Specific Transfer Learning" is introduced to alleviate the scarcity issue by utilizing other remotely sensed corpora with different resolutions as pre-trained data. The experiment was then conducted on two given data sets: (i) medium resolution data collected from Landsat-8 satellite and (ii) very high-resolution data called "ISPRS Vaihingen Challenge Data Set". The results show that our networks outperformed DCED in terms of F1 for 17.48% and 2.49% on medium and very high-resolution corpora, respectively.

Thank you very much for your consideration.

Yours Sincerely,

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