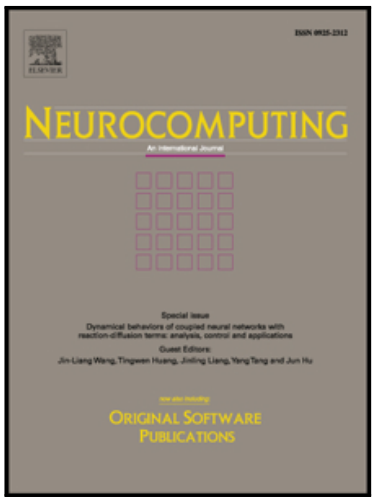

Hyperspectral image super-resolution using deep convolutional neural network

Yunsong Li, Jing Hu, Xi Zhao, Weiying Xie, JiaoJiao Li

PII: S0925-2312(17)30841-X
DOI: 10.1016/j.neucom.2017.05.024
Reference: NEUCOM 18438

To appear in: *Neurocomputing*

Received date: 22 December 2016
Revised date: 3 May 2017
Accepted date: 10 May 2017

Please cite this article as: Yunsong Li, Jing Hu, Xi Zhao, Weiying Xie, JiaoJiao Li, Hyperspectral image super-resolution using deep convolutional neural network, *Neurocomputing* (2017), doi: 10.1016/j.neucom.2017.05.024

Highlights

- It is challenging to obtain a hyperspectral image (HSI) with a high spatial resolution, and the spectral information of an HSI is important and cannot be distorted.
- We propose an HSI super-resolution (SR) method by combining a spatial constraint (SCT) strategy with a deep spectral difference convolutional neural network (CNN) model.
- The SCT strategy constrains that the low resolution (LR) HSI generated by the reconstructed high resolution (HR) should be spatially close to input LR HSI.
- The SDCNN model is utilized to preserve the important spectral information. Experimental data on different databases have validated the effectiveness of the proposed method.