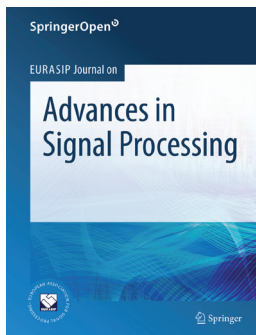


EURASIP Journal on Advances in Signal Processing

Special Issue on
Neural Networks for Interpretation of
Remotely Sensed Data

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Recent advances in sensor and computer technology are revolutionizing the way remotely sensed data is collected, managed, and interpreted. The incorporation of latest generation sensors in airborne and satellite platforms is currently producing a nearly continual stream of remotely sensed data. Among the wide variety of machine learning techniques applied to the extraction of relevant information from remotely sensed data sets, artificial neural networks (ANNs) have shown significant success in analyzing different types of data, including optical data sets (e.g., those collected by multispectral and hyperspectral sensors), radar data sets (e.g., those provided by synthetic aperture radar (SAR) and ground-penetrating radar (GPR) instruments), and atmospheric data sets (e.g., those recorded by atmospheric sounders) among many others. ANNs have also been a powerful tool for estimation of biophysical parameters in many different applications. The main purpose of this special issue is to provide a cross-section of the state-of-the-art in the area and to offer a thoughtful perspective on the potentials and the emerging challenges of applying ANNs to the analysis and interpretation of the new generation of remotely sensed data sets. The special issue will equally cover methodological innovations (e.g., development of new ANN architectures or modifications of existing ones, including advanced training strategies) and new applications of ANNs in EO and planetary exploration. Potential topics include, but are not limited to:

- ▶ Multispectral and hyperspectral data analysis and interpretation using ANNs
- ▶ Synthetic aperture radar (SAR) and ground penetrating radar (GPR) data analysis and interpretation using ANNs
- ▶ Analysis of other types or combinations of remotely sensed data in EO and planetary exploration using ANNs, including investigations of atmospheres, solid surfaces, water bodies, and plants
- ▶ Biological and physical parameter estimation and regression from remotely sensed data sets using ANNs
- ▶ Optimization of ANNs and their parameters for advanced interpretation of remotely sensed data, including advanced techniques for classification and clustering
- ▶ Parallel and hardware implementations of ANNs for improved efficiency of remote sensing data interpretation
- ▶ Comparative analysis and combination between ANNs and Bayesian and/or other related machine learning techniques in remotely sensed data interpretation

Submission Schedule

- ▶ **Manuscript Due:**
July 1, 2011
- ▶ **First Round of Reviews:**
October 1, 2011
- ▶ **Publication Date:**
January 1, 2012

Submission Instructions:

Before submission authors should carefully read over the Instructions for Authors, which are located at <http://asp.eurasipjournals.com/authors/instructions>. Prospective authors should submit an electronic copy of their complete manuscript through the SpringerOpen submission system at <http://asp.eurasipjournals.com/manuscript> according to the submission schedule. They should specify the manuscript as a submission to the “Special Issue on Neural Networks for Interpretation of Remotely Sensed Data” in the cover letter. All submissions will undergo initial screening by the Guest Editors for fit to the theme of the Special Issue and prospects for successfully negotiating the review process.

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