

CALL FOR PAPERS

Special Issue: Advances in Real-Time Image Processing for Remote Sensing

Journal of Real-Time Image Processing - JRTIP

Overview:

The latest-generation earth observation instruments onboard airborne and satellite platforms are currently producing a nearly-continual stream of high-dimensional data, and this explosion in the amount of collected information has rapidly introduced new processing challenges in remote sensing. The development of computationally efficient techniques for transforming the massive amount of remote sensing data into scientific understanding is critical for Earth science. Real or near real-time processing capabilities are required for some remote sensing applications, for example tracking and monitoring of hazards such as wild land and forest fires, oil spills, etc.

New Earth observation instruments (e.g., hyperspectral imagers) are expected to substantially increase their spatial and spectral resolutions, thus producing computationally intense image processing data sets. Technological advances are not only expected in optical instruments, but also in radar and other types of remote sensing systems. Specifically, synthetic aperture radar (SAR) image processing is particularly time consuming, and can greatly benefit from high performance computing techniques and practices to speed up processing of this type of data.

The primary goal of this special issue of JRTIP is to foster research in real-time image processing for remote sensing applications, and to provide the opportunity for researchers and product developers to discuss the state-of-the-art and trends of architectures, techniques and systems for real-time processing for remotely sensed images.

Topics of Interest:

This special issue aims to solicit contributions reporting the most recent progress on real-time image processing for remote sensing applications. The list of possible topics includes, but not limited to:

- In-orbit or on-ground real-time processing of all types of remote sensing data, e.g., multispectral, hyperspectral, SAR
- Very large scale integration (VLSI) architectures for remote sensing image processing, including Field programmable gate array (FPGA), Graphics processing units (GPUs), and embedded systems
- Parallel and distributed algorithm design and implementation in remote sensing

- High performance computing implementations for remote sensing applications, e.g., information extraction, humidity retrieval, etc.
- Real-time remote sensing image processing, such as hyperspectral image classification, unmixing, compression, content-based image indexing and retrieval, land-use and land cover classification, target detection/tracking, anomaly detection, monitoring of natural and man-induced disasters, etc.

Submission Guideline:

Authors from academia and industry working in the above research areas are invited to submit original manuscripts that have not been published and are not currently under review by other journals or conferences. All potential authors are requested to volunteer as reviewers in the peer-review process for manuscripts submitted for this special issue.

Manuscripts are requested according to the Guide for Authors available from the online submission page of the JRTIP at <https://www.editorialmanager.com/rtip/default.aspx>. All the papers will be peer-reviewed following the JRTIP reviewing procedures.

Notes: when submitting your manuscript, at the step of “Choose Article Type”, please choose this special issue: “SI: Advances in Real-Time Image Processing for Remote Sensing”.

The issue is to be reviewed on a “fast track” basis. Prior to sending full paper submissions, it is highly recommended to query the appropriateness of submissions with a 100-200 word abstract by contacting the guest editors with the following contact information:

Guest Editors:

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Important Dates:

- Papers due: December 20, 2017
- Review and revision completed: March 25, 2018
- Camera ready paper due: April 30, 2018