

## Guest Editorial Preface

# Special Issue of Networking, Remote Sensing, and Machine Learning Applications for Environments

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The role of this special issue is mainly focused on remote sensing and machine learning applications for environments. The rapidly increasing availability of multispectral, high spatial resolution imagery, collected by satellites, cubesats, and airborne sensors, presents an opportunity to detect landscape change, landuse landcover, surface temperature, nature disaster with increased spatial detail of research environment and applications. The research environment studies utilizing data from several satellite imagery such as LANDSAT, WORLDVIEW, SPOT, LIDAR data, Sentinel and MODIS other satellite imagery. Today, a new generation of research environment studies using several satellite imagery with different spatial resolution based on research study through the capitalizing on the availability of data from high spatial resolution global monitoring missions. For example, the unprecedented 45-year long global Landsat archive is increasingly used to analyze past and present global land and water changes, and higher temporal frequency global observations from Sentinel are enabling the use of dense high resolution time series for near real time monitoring. In addition to Sentinel and Landsat, data from other global Landsat-class missions are increasingly being integrated into virtual Earth observation constellations that further advance global land and water monitoring. These challenges all point to the need for improved image processing approaches specific to multispectral, high spatial resolution imagery. In this Special Issue, the methodological contributions in terms of novel machine learning algorithms as well as the application of innovative techniques to relevant scenarios from hyperspectral data.

On the other hand, the environmental modelling can be described as a simplified form of a real system that enhances our knowledge of how a system operates. Such models represent the functioning of various processes of the environment, such as: processes related to atmosphere, hydrology, and land surface, among others. In fact, environmental models may span a wide spectrum of geographic (i.e., from local to regional to global-levels) and temporal (i.e., diurnal to monthly to annual to decadal-levels) scale. They often integrates various aspects of the environment that can be described upon employing various types of models, such as process-driven, empirical or data-driven, deterministic, stochastic, etc.

The following research articles are selected in the special issue on “Networking, Remote Sensing, and Machine Learning Applications for Environments”:

- A Credit-Based System for Traffic Routing in Support of Vehicular Networks
- Implementation of E-Learning Functions With the Use of Information System Architecture
- 434 MHz Environmentally Safe Monitoring Schema for Vehicular Network by AI-ML-IoT Technologies
- Data Compression and Encryption for Remote Sensor Networks Using Different Techniques Methods
- The Impact of Environmental and Social Costs Disclosure on Financial Performance Mediating by Earning Management
- Design of Field Programmable Gate Array for a Swarm Intelligent Controller Based on a Portable Robotic System: Review Study

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