Data Sensing Techniques and Processing Algorithms for Smart and Sustainable Agriculture

Message from the Guest Editors

Technological developments have enabled agriculture to become smarter through the integration of a diverse array of sensing instruments and techniques used to measure, monitor, and manage crop and soil conditions. From proximal IoT devices to aerial and satellite-based remote sensing platforms, data is captured in various formats, across multiple resolutions and spectral ranges. While these technologies generate vast amounts of raw data, their true value lies in how that data is processed and transformed into actionable insights. Effective data processing is essential to address critical agricultural challenges such as irrigation management, phenological monitoring, pest and disease detection, and adaptation to climate variability. Techniques may span from traditional statistical approaches to advanced artificial intelligence and machine learning models. This Special Issue seeks to highlight innovative research in data sensing and processing for agriculture. Submissions focused on the analysis, interpretation, and application of agricultural data using both conventional and cutting-edge techniques are welcomed.

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Message from the Editor-in-Chief

Algorithms are the very core of Computer Science. The whole area has been considered from quite different perspectives, having led to the development of many sub-communities: Complexity theory (limitations), approximation or parameterized algorithms (types of problems), geometric algorithms (subject area), metaheuristics, algorithm engineering, medical imaging (applications), indicates the range of perspectives. Our journal welcomes submissions written from any of these perspectives, so that it may become a forum for exchange of ideas between the corresponding scientific subcommunities.

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