Special Issue on

Intelligent Data Analysis for Sustainable Computing

Recent years have witnessed a deluge of new and big spatio-temporal data streams that contain a wealth of information relevant to sustainable development goals. The analysis of such data streams poses tremendous challenges in the current computing systems, due to its strong correlations between the temporal and spatial domain of the data, and the emerging needs of real-time decision support in some real-world problems.

To obtain this valuable information, there is an urgent demand for high-level computational intelligence based on emerging analytical techniques, such as big data analytics, Web analytics, and network analytics, employing software tools from advanced analytics disciplines, such as machine learning, data mining, and predictive analytics. This results in modern data analysis techniques having the potential to yield accurate, inexpensive, and high scalable models for providing intelligent and real-time decision support in creating effective computing systems. This will also result in addressing sustainability problems in computing and information processing environments at different levels of computational intelligence paradigms. Computational intelligent data analysis is playing an ever-increasingly important and critical role in achieving sustainable ICT (Information and Communication Technology) in new computing paradigms of the current data-driven era.

This special issue is devoted to the most recent developments and research outcomes addressing the related theoretical and practical aspects of computational intelligence solutions in sustainable computing and aims at presenting latest innovative ideas targeted at the corresponding key challenges, either from a methodological or from an application perspective.

Topics

Topics of interest include but are not limited to the following:

- Scale computational intelligence and algorithms for sustainability
- Online computational intelligent data analysis for sustainable computing
• Computational intelligence in spatio-temporal big data analysis for sustainable computing
• Optimising workload placement in data centres for sustainability purposes
• Sustainability in Smart-X (X: cities, manufacturing, health, and anywhere IoT immerses)
• Process analysis and optimisation in smart environments
• Context-awareness for sustainable smart environments
• Environment-aware application, analytics and visualisation for computational intelligence
• Environment big data processing and analysis for computational intelligence
• Large-scale sustainable computing systems with computational intelligence
• Computational intelligence in sustainability analysis of energy distributions
• Computational intelligence techniques in energy-aware system designs
• Advances in computational intelligence for energy-aware optimisations
• Application-specific computational intelligent analysis for sustainable computing
• Evaluations and comparisons of computational intelligence techniques in sustainable computing
• Computational intelligence in cloud computing for sustainable computing
• Future generation green ICT with computational intelligence
• Computational intelligent sustainable computing for cybersecurity

**Important Dates**

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**Submission Guidelines**

Authors are invited to submit their manuscripts electronically adhering to the IEEE Transactions on Sustainable Computing guidelines (https://www.computer.org/web/tsusc/author).

Please submit your papers through the online system (https://mc.manuscriptcentral.com/tsusc-cs) and be sure to select the special issue on Intelligent Data Analysis for Sustainable Computing.

Manuscripts should not be published or currently submitted for publication elsewhere. Please submit only full papers intended for review, not abstracts, to the ScholarOne portal.
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