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Simplicity and Explainability in Algorithms

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Message from the Guest Editors

This Special Issue is devoted to research on algorithmics, in all areas of computer science, but with specific attention to the more philosophical aspects related to their simplicity, elegance, and explainability, with respect not only to their design but also to their analysis.

Simplicity in design and presentation is a fundamental aspect of the success of an algorithm or computational model. Indeed, simpler algorithms, which consequently are easily understood and explained, allow a better understanding of the problem addressed, are easier to implement, and for this reason are more likely to be used by professionals and enjoy their trust.

However, the aspect of explainability, closely related to simplicity, is a multifaceted topic that in recent years has concerned the field of algorithms implemented in neural network models. In this context, explainability refers not only to the possibility of interpreting the decisions a model produces, but also to the possibility of accounting for the entire process and intention surrounding the model.

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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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