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Anomaly and Novelty Detection and Explainability

Guest Editor:

Prof. Dr. Radu Tudor Ionescu
Department of Computer Science, University of Bucharest, 14 Academiei, 010014 Bucharest, Romania

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Message from the Guest Editor

Anomalies and novelties are very rare, and, in most cases, such observations are not available at training time. This means that machine learning methods based on traditional supervision are ruled out. The main problem in anomaly and novelty detection is to design artificial intelligence systems that are able to characterize the nature of anomalies and novelties, without seeing such observations at training time. An equally important problem is the design of artificial intelligence systems that are able to explain the decision-making process. Additional problems are related to (i) the difficulty of learning latent representations with deep neural models that disentangle normal and abnormal observations, (ii) the need to formulate new fundamental theories to clarify what anomalies can be detected, and (iii) the evaluation of proposed models in realistic scenarios. This Special Issue aims to gather articles addressing the problems enumerated above, as well as other problems related to anomaly and novelty detection.

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Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and Informatics, De Montfort University, The Gateway, Leicester LE1 9BH, UK

Message from the Editor-in-Chief

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Mathematics Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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