Machine Learning for Technical Systems

Guest Editors:

Prof. Dr. Wolfram Schenck
Center for Applied Data Science
Gütersloh, Faculty of Engineering
and Mathematics, FH Bielefeld -
University of Applied Sciences,
33619 Bielefeld, Germany

Dr. Alaa Tharwat
Center for Applied Data Science
Gütersloh, Faculty of Engineering
and Mathematics, FH Bielefeld -
University of Applied Sciences,
33619 Bielefeld, Germany

Deadline for manuscript
submissions:
closed (31 December 2022)

Message from the Guest Editors

Functionality and features of technical systems, like assembly lines, robotic systems, motor vehicles, and imaging systems are becoming increasingly enhanced by data-driven machine learning algorithms. However, this application area imposes challenges. Firstly, the safety of these systems needs to be guaranteed, requiring data-driven models that are interpretable after training, and can be subject to thorough validation. Second, many technical systems generate continuous streams of data during operation, requiring advanced techniques for learning on data streams that can deal with concept drift and imbalanced data. Third, in such big data scenarios, the labeling of data is often expensive, raising the need to select the most representative data points.

This Special Issue welcomes contributions that present novel algorithms or extensions of existing algorithms to meet these and other challenges in the application of machine learning to technical systems. Benchmarking of the proposed methods on data sets from real technical systems is most welcome.

mdpi.com/si/69003

Special Issue

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

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.
Journal Rank: JCR - Q1 (*Mathematics*) / CiteScore - Q1 (*General Mathematics*)

Contact Us