CALL FOR PAPERS

Special Issue on

on

Intelligent Control and Optimisation

organised by

IFAC Technical committee: TC3.2 Computational Intelligence and Control

Guest editors

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Deadline for full paper submission: 31 October 2021

Prospective authors are invited to submit their original unpublished manuscripts for consideration for a special issue of the IFAC journal Engineering Applications of Artificial Intelligence, organised by the IFAC Technical Committee on Computational Intelligence and Control. The theme of the special issue is **Advances in Machine Learning and AI for Intelligent Control and Optimisation.**

The constantly increasing availability of data, the rapid expansion in computational and storage capacities of IT systems, and algorithmic advances in Machine Learning, AI and Intelligent Control, are beginning to have a huge impact in many areas of science and engineering. These technologies have the potential to transform many sectors of our society, from healthcare to manufacturing. However, many challenges remain that are limiting their wide scale adoption, from dealing with data quality and volume issues to achieving scalable and robust solutions. This special issue invites contributions that address these challenges and/or showcase the latest real-world applications and enabling algorithmic advancements of Machine Learning and Intelligent Control. Comprehensive tutorial and survey papers are also welcome.

We invite novel contributions that are based on (but not limited to) the following topics as they pertain to system identification, intelligent control, and optimisation of dynamical systems.

- Parsimonious and robust machine learning approaches
- Deep learning, transfer learning and adaption
- Machine learning approaches for sequence learning tasks
- Soft computing (Fuzzy logic, Neural Networks, Evolutionary Algorithms, …)
- Reinforcement learning
- Computer vision

Application areas include autonomous vehicles, robotic systems, human-machine collaboration, industry 4.0, smart grids, agriculture, environmental systems, biomedical systems and assisted living technologies.

Prospective authors are asked to notify the guest editors of their intention to submit a paper to the special issue by sending the title and a 200-word abstract to Seán McLoone (s.mcloone@qub.ac.uk), to confirm the suitability of their contribution for the special issue and to receive submission instructions.

Tentative schedule: Submission deadline 31 October 2021; Notification of review decisions to authors: 28 February 2022; Deadline for revised submissions: 31 May 2022; Final acceptance decision: 30 June 2022. Papers will be processed once submitted and accepted manuscripts will appear online (incl. a DOI) within one month of acceptance.

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