Editorial

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Biographical notes: Lining Xing is a Professor with the College of Systems Engineering, National University of Defense Technology. His current research interests include intelligent optimisation, resource scheduling, and mission planning. He was a recipient of the Excellent Talent Support Program in New Century of the Ministry of Education and Outstanding Youth Fund in Natural Science of Hunan Province, the National Excellent PhD Dissertation of China in 2014, the Second Prize of Wu Wen-Jun Artificial Intelligence Science and Technology. Seven of his academic papers have been selected as ESI Top 1% and Top 10% dissertation.

Ruili Wang is a Professor of Artificial Intelligence at Massey University, Auckland, New Zealand. He received his PhD degree from Dublin City University, Dublin, Ireland, in Computer Science. His current research areas include language and speech processing, machine learning and data mining, computer vision and image processing. He is an Associate Editor (or an editorial board member) for the journals *IEEE Transactions on Emerging Topics in Computational Intelligence*, *Knowledge and Intelligent Systems*

(Springer), *Applied Soft Computing* (Elsevier), and *Neurocomputing* (Elsevier). He has published more than 140 papers, of which 80 are in peer-reviewed journals. He has supervised 21 PhD and eight Master's students to completion.

Zhiping Peng received his PhD degree from the Huanan University of Technology, in 2007. He is currently working as a Professor in the School of Computer and Electronic Technology, Guangdong University of Petrochemical Technology. His research interest covers multi-robot system and intelligent control.

Haiwu Rong received his PhD degree from the Northwestern Polytechnical University. He is currently working as a Professor in the School of Mathematics and Big Data, Foshan University. His research interests cover big data analysis and application.

Under most circumstances, only historical data are available for performing optimisation and no new data can be generated during optimisation. Solving intelligent optimisation problems driven by data collected in simulations, physical experiments, production processes, or daily life are termed data-driven intelligent optimisation. Although different kinds of data-driven intelligent optimisation methods have been proposed in the past, more advanced methodological/theory studies are still demanded because of the real-world optimisation requirements.

This special issue therefore invited both experts and newcomers to investigate data-driven intelligent optimisation methods and applications, with the aim of presenting and comparing researchers' ideas concerning data-driven intelligent optimisation methods. Our team has selected seven relevant papers, focusing on different aspects that provide a strong support on data-driven intelligent optimisation.

The first paper designs an industrial automation programmable logic controller (PLC) using the single diode model. The experimental results reveal that the automation PLC through the photovoltaic block presents the good modelling that can be used as an input for any photovoltaic system.

The second paper proposes the binary particle swarm optimisation and the extreme learning machine for diagnosing paraquat-poisoned patients. The experimental results show that the proposed method has better performance than other four methods.

The third paper investigates recharge strategies for the electric vehicle routing problem with soft time windows and fast chargers. The performance of proposed method is compared and tested with benchmark examples, and the results verify the feasibility and effectiveness of the proposed model and solution algorithm.

In the fourth paper, a data-driven iterative learning control with neural network-based optimisation method for distributed parameter systems is presented to solve a class of problems caused by the imprecise mathematical model. Simulation results show the feasibility of proposed method.

The fifth paper studies the R&D cooperation of industrial clusters based on the perspective of supply chain, constructs the evolutionary game model of R&D cooperation of horizontal enterprises in the cluster, and conducts numerical simulation analysis.

An interesting paper is the sixth one, which proposes the self-adaptive wolf pack algorithm based on dynamic population updating for continuous optimisation problems. The experimental results indicate that the proposed method obtains superior performance on both multi-modal and high-dimensional problems over the compared algorithms.

In order to balance the safety and comfort of drivers during the braking process, the seventh paper designs the multi-objective optimisation method of combining with driving comfort, braking distance and pedal force. Then, the output of the model is analysed by memetic algorithm to make the braking distance smaller than the safety distance, and the driving comfort is optimised as well.

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