Editorial

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Biographical notes: B. Vinoth Kumar is working as an Associate Professor with 17 years of experience in the Department of Information Technology at PSG College of Technology, India. His research interests include soft computing, memetic algorithms, blockchain and digital image processing. He has co-established the Artificial Intelligence Research (AIR) Laboratory at PSG College of Technology. He is an author of more than 40 papers in refereed journals and conferences including book chapters. He has edited four books with reputed publishers such as the Springer and CRC Press. He serves as a guest editor/reviewer of many journals with leading publishers such as Inderscience, De Gruyter and Springer.

P. Sivakumar is working as an Assistant Professor with 12 years of experience in the Department of EEE at PSG College of Technology. He is an author of more than 25 papers in refereed journals, international conferences and book chapters. His research interests include embedded system, image processing, model-based design, model-based testing of automotive software, automotive software development, fog and edge computing and automotive grade Linux.

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G.R. Karpagam is a Professor with 25 years of experience in the Department of CSE at PSG College of Technology. Her research interests include blockchain, AI, SOA and cloud. She was a senior IEEE member and of Women in Engineering. She has published 100+ papers in journals and conferences including book chapters. She has established five state-of-the-art laboratories funded by government agencies and private industries. Her additional responsibilities include as Professor-in-charge of the library and centre-in-charge AI-Research (AIR). She was an instrumental in developing mobile apps and chatbots.

Yanjun Zhao is currently an Associate Professor in the Computer Science Department at Troy University, USA. She received her PhD in Computer Science from the Georgia State University. She joined Troy University as an Assistant Professor in 2014 and was promoted as Tenured Associate Professor in 2020. Her research areas include image processing, computer vision, pattern recognition, artificial intelligence and data mining. She has research publications in prestigious international conferences and journals. She has also been serving as an editor board member for international journals and committee member for international conferences.

Computer vision is an interdisciplinary field that trains computers to interpret and understand the visual world from digital images and videos. This field of study translates the digital visual content into clear explanations to gather multi-dimensional data which is converted into computer-readable language to assist the decision-making process. However, there are still many challenging problems to solve in computer vision and there is a need to explore the intelligent techniques to address the same. Intelligent techniques are the one which replicates the human ways of reasoning in computing. It is needed to extract useful knowledge through the process of image/video such as a combination of extraction, analysis, conversion, classification, organisation, reasoning, and so on. The main objective of this special issue is to address and disseminate state-of-the-art research and development in the applications of intelligent techniques for computer vision.

This editorial aims to summarise the five scientific papers that contributed to the special issue 'Exploration of intelligent techniques for computer vision applications'.

The first paper entitled 'Investigating the population dynamics of differential evolution algorithm for solving multi-objective *RFID* reader placement problem' by K. Devika and G. Jeyakumar, demonstrated the applicability of differential evolution (DE) on the radio frequency identification (RFID) reader placement problem with multiple-objectives. They have also carried out the performance analysis of DE in solving the multi-objective optimisation problems (MOOP) with two different population initialisation techniques.

The second paper entitled 'Empirical investigations on evolution strategies to self-adapt the mutation and crossover parameters of differential evolution algorithm' by Dhanya M. Dhanalakshmy et al., have investigated different parameter evolution strategies such as mutation step size (F) and crossover probability (CR) applicable for DE.

The third paper entitled 'Trajectory-based fast ball detection and tracking for an autonomous industrial robot system' by Youssef M. AbdElKhalek et al., presented an autonomous system, which observes the surrounding environment, and takes action on its observation. They proposed a trajectory generation framework for rebuffing incoming flying objects that are thrown towards a robotic arm's workspace.

The fourth paper entitled 'Heuristic hidden Markov model for fuzzy time series forecasting' by Ahmed T. Salawudeen et al., presented fuzzy time series forecasting model using hidden Markov model (HMM) and genetic algorithm (GA). They formulated an objective function representing the HMM parameter estimation problem and optimise the formulated objective function using GA.

The fifth paper entitled 'An efficient data hiding technique in image using binary Hamming code along with particle swarm optimisation' by P. Malathi and T. Gireesh Kumar, proposed an effective spatial domain steganographic scheme. They used particle swarm optimisation (PSO) to identify the most efficient pixel position in the greyscale cover image, and then secret information is embedded using binary Hamming code.

We must thank all the contributors of this special issue and we hope the papers presented will inspire future research both from theoretical and practical viewpoints to spur further advances in the field.