
Editorial

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Biographical notes: Suresh Chandra Satapathy received his PhD in Computer Science. He is currently working as a Professor at the KIIT (Deemed to be University), India. He has been instrumental in organising more than 20 international conferences in India as the organising chair and edited more than 30 book volumes from Springer as a corresponding editor. He is quite active in research in the areas of swarm intelligence, machine learning and data mining. He has developed a new optimisation algorithm known as social group optimisation (SGO) published in Springer journal. He has more than 100 publications in reputed journals and conference proceedings.

Vikrant Bhateja is an Associate Professor at the ECE Deptt., Shri Ramswaroop Memorial Group of Professional Colleges (SRMGPC), Lucknow, India and also the Head of Academics and Quality Control in the same college. He received his Doctorate in Bio-medical Imaging and Signal Processing and has a total academic teaching experience of 16 years with around 125 publications in reputed international conferences, journals and online book chapter contributions. His areas of research include digital image and video processing, computer vision, medical imaging, machine learning, pattern analysis and recognition. He has edited 18 proceeding books/editorial volumes with Springer Nature.

Aimé Lay-Ekuakille received his PhD in Electronic Engineering from the Polytechnic of Bari. He is a Professor of Measurements, Instrumentation and Sensors with the Department of Innovation Engineering, University of Salento, Italy. His main areas of research are instrumentation and measurements for biomedical, environmental and industrial applications, sensors and sensing systems, nanotechnology and ageing and characterisation of photovoltaic panels. He authored and co-authored more than 280 papers on indexed international conferences and journals, as well as five international books. He serves as Editor of *Measurement Journal* and an Associate Editor of *IEEE Sensors Journal*.

Many advances have been made recently in the field of image processing and pattern analysis. This special issue covers recent trends in amalgamating computational intelligence in the domain of computer vision, image processing and pattern analysis. The overall rationale of this special issue is to focus upon the latest advances in theory, methodologies and applications in the highly interdisciplinary research and development area of machine vision, image processing, image and pattern analysis and related domains. The theme addresses herein mathematical, physical, architectural and computational aspects of machine vision, analysis, matching and recognition along with the utilisation of advanced intelligence paradigms.

Eleven papers presented in this issue cover the following themes: noise removal via trimmed median filter, character recognition, texture classification, super-resolution for image restoration, classification of micro aneurysm in diabetic retinopathy fundus images, face and iris recognition, medical image compression, video-based assistive aid for blind people using object recognition, fusion of contour and region-based descriptors and adaptive identification of human activity pattern.