Editorial

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Biographical notes: V. Akila is currently an Assistant Professor at Pondicherry Engineering College. She has 18 years of experience. She completed her PhD in Bug Triage in Open Source Systems in 2015. Her research interests are bug triage, cloud computing, data analytics and social network analytics. She is a Professional Member of ACM, ISTE and she belongs to the ACM-SIGKDD special interest group. She has acted as the Coordinator of an ACM-ICPS International Conference on Informatics and Analytics. Further, she has coordinated workshops under ISRO. She is also a Reviewer at several reputed journals like *IET Software*, *International Journal of Advanced Intelligence Paradigms*: *Inderscience* and *IGI Global Journal of Organizational* and *End User Computing (JOEUC)*. She has authored a book chapter titled "Information Retrieval Models: Trends and Techniques" in "Web Semantics for Textual and Visual Information Retrieval", IGI Global publishers. She is the Principal Investigator of an UGC Minor Project. She has also delivered several Lectures at Short Term Training Programmes sponsored by TEQIP, QIP, etc.

Krishnamurthy Saruladha completed her BE in Computer Science and Engineering at University of Madras at 1989 and MTech under Pondicherry University in 1997. She completed her PhD in Semantic similarity measures for ontology based Information Retrieval systems in 2012. She is a member of Professional bodies like ACM (SIGIR), IANENG, ISTE and IEEE collabratec. She has acted as the Coordinator of an ACM-ICPS International Conference on Informatics and Analytics. She is also a Reviewer at several reputed journals like *Springer Journal on Medical Systems*. She has authored a book chapter titled "Information Retrieval Models: Trends and Techniques" in "Web Semantics for Textual and Visual Information Retrieval", IGI Global publishers. She has 26 years of teaching experience. She is recognised supervisor in Pondicherry University. She has been Special Session organiser on Information Retrieval in International Conferences. She has acted as Technical program committee member in several International conferences. She has organised several Faculty Development Programmes sponsored National funding agencies like AICTE, TEQIP. She has also served as resource person for Short Term Training Programmes sponsored by AICTE, TEQIP, QIP.

Nagalingam Sivakumar completed his BTech in Computer Science and Engineering at Pondicherry University at 2001, MTech (Distributed Computing System) under Pondicherry University in the year 2004 and MBA (International Business) under Pondicherry University in the year 2008. He completed his PhD in Agent Oriented Software Testing in 2014. He has acted as the Organizing Secretary for ACM-ICPS International Conference on Informatics and Analytics. He has 15 years of teaching experience. He is recognised supervisor in Pondicherry University. He has organised Faculty Development Programme sponsored National funding agencies like AICTE. He has organised several workshops for the students in areas such as Android based Mobile Application Development, Ethical Hacking and Animation. He has also served as resource person for Short Term Training Programmes sponsored by AICTE, TEQIP, and QIP. He is serving as Nodal Officer under TEQIP Phase III for Pondicherry Engineering College.

G. Zayaraz is currently working as a Professor in the Department of Computer Science and Engineering, Pondicherry Engineering College. His areas of interests include software engineering and information security. He completed his BTech, MTech and PhD in Computer Science and Engineering from Pondicherry University. He has 28 years of teaching experience at all levels namely industry, diploma, under graduate, post graduate and research. He has officiated as Head of MCA department and currently is the Associate Dean (Student Affairs). To his credit he has published more than 100 research papers in reputed International Journals and Conferences. He has authored a book titled Quantitative Evaluation of Software Architectures sold by leading book sellers. He has been the advisory member, and reviewer for several International Conferences. He has been the Guest editor of Inderscience special issue journal on software engineering. Under his guidance, seven scholars have successfully completed their PhD and four students are pursuing their PhD.

E. Ilavarasan received the post graduate degree MTech in Computer Science and Engineering from Pondicherry University, Puducherry, India, in 1997 and the PhD in Computer Science and Engineering from the same University, in 2008. He is currently working as a Professor in the Department of Computer Science and Engineering at Pondicherry Engineering College, Puducherry, India. He is instrumental in setting up the Microprocessor laboratory and the Embedded System Laboratory funded by MODROBS-AICTE. Presently he is supervising five research scholars. His research interests include parallel and distributed systems, operating systems security, web services computing and embedded systems. He has organised National and International conferences with faculty members working in the Pondicherry Engineering College. He has published more than 50 research papers in the international journals and conferences. He had more than 25 years of experience in teaching.

1 Introduction

This special issue is a collection of selected extended research papers that were presented at the *International Conference of Informatics and Analytics (ICIA-16)*. The Conference had served as a platform for synergy among the best academicians, educators, business leaders, researchers, scientists innovative thinkers from diversified parts of the world to promote exchange of ideas, discuss future collaborations, and develop new research directions. In this context, a special track was dedicated to image processing and analysis

due to the pervasive low cost availability of storage and transmission technology in recent times and its ramifications on the field of image processing and analysis.

This steep decline of cost of storage and transmission technology has propelled the advances as well as challenges in the field of image processing and analysis. Image processing pertains to altering an image in order to either enhance pictorial information for human interpretations, or render it suitable for machine perception or for data compression. Image analysis deals with extraction of meaningful information from the image.

The sheer amount of data that needs to be processed and interpreted poses an immense challenge in this field. Further, uncertainties that are inherent in the image data compound the problem. Image processing also has a wide range of applications from medical image analysis, gesture recognition to information security.

This special issue focuses upon the latest advances in methodologies, research and applications of image processing and analysis. The theme of the special issue comprises of image processing, indexing and retrieval, medical image analysis and intelligent techniques for image analysis.

We thank all the international reviewers for their professional services. We are deeply indebted to Professor Dr. Wahiba Ben Abdessalem Karâa, the Editor-in-Chief, for providing the opportunity to publish this special issue. We are also very grateful to Alexandra Starkie, Journal Manager, for all the efforts to promote this special edition.

Papers

Senthil Kumar et al., has focused on the optimisation algorithms in image segmentation in the area of breast cancer detection. In particular the work is about detecting mistrustful masses in the given ultrasound image of the breast. median filter and Gaussian filter are used to reduce the speckle noise. A comparative analysis of the performance of particle swarm optimisation, chaotic particle swarm optimisation, k-Medoid clustering, fuzzy c Means and k-Means clustering optimisation algorithms.

Kashyap has proposed a paper about segmentation field of computer vision. The author has proposed an accurate energy based active contour method combined with the feature of the lattice Boltzmann method for fast handling of level set evolution in the process of image segmentation.

Panicker et al., presents a paper about age assertion. The proposed methodology uses a distance vector for extracting global facial features for age classification. The FGNET facial aging database was used for the experiments.

Finally, Punitha et al., presents an extensive study on the available techniques on computer-aided mammography for the segmentation and classification of the microcalcifications present in Digital mammograms.