
Editorial

D. Jude Hemanth*

Department of Electronics and Communication Engineering,
Karunya Institute of Technology and Sciences,
Coimbatore 641114, Tamil Nadu, India
Email: judehemanth@karunya.edu

*Corresponding author

Mamta Mittal

Department of Computer Science and Engineering,
G.B. Pant Government Engineering College,
Okhla 110020, New Delhi, India
Email: mittalmamta79@gmail.com

Basant Agarwal

Department of Computer Science and Engineering,
Indian Institute of Information Technology (IIIT Kota),
MNIT Campus 302017, Jaipur, India
Email: basant.cse@iiitkota.ac.in

Biographical notes: D. Jude Hemanth received his BE in ECE from Bharathiar University in 2002, ME in Communication Systems from Anna University in 2006 and PhD from Karunya University in 2013. His research areas include computational intelligence and image processing. He has authored more than 100 research papers in reputed SCIE indexed international journals and Scopus indexed international conferences. His cumulative impact factor is more than 100. He has published 27 edited books with reputed publishers such as Elsevier, Springer and IET. He has been serving as an Associate Editor of SCIE indexed international *Journal of Intelligent and Fuzzy Systems*. Currently, he is working as an Associate Professor in Department of ECE, Karunya University, Coimbatore, India.

Mamta Mittal is graduated in Computer Engineering from Kurukshetra University Kurukshetra in 2001 and received Masters' (Honors) in Computer Engineering from YMCA, Faridabad. Her PhD is from Thapar University Patiala in Computer Engineering and rich experience of more than 16 years. She is presently working at G.B. Pant Government Engineering College, Okhla, New Delhi (under Government of NCT Delhi) and supervising PhD candidates of GGSIPU, New Delhi. She is working on DST approved project 'Development of IoT based hybrid navigation module for mid-sized autonomous vehicles'. She has published many SCI/SCIE/Scopus indexed papers and book editor of renowned publishers.

Basant Agarwal is an Assistant Professor at the Indian Institute of Information Technology Kota (IIIT-Kota), India. He obtained his PhD and MTech from the Department of CSE, MNIT Jaipur. He has worked as a Postdoc Research Fellow at the Norwegian University of Science and Technology (NTNU), Norway, under the prestigious European Research Consortium for Informatics and Mathematics (ERCIM) fellowship in 2016. He has also worked as a Research Scientist at Temasek Laboratories, National University of Singapore (NUS), Singapore. He has published more than 60 reputed conferences and journals. He is serving as a senior member, technical program committee member, member of editorial board/reviewer board of various renowned international conferences/journals such as *Knowledge-Based Systems*, *IEEE Intelligent Systems*, *Information Processing & Management* to name a few. His research interest is in artificial intelligence, text mining, natural language processing, machine learning, deep learning, intelligent systems, expert systems and related areas.

Intelligent systems and machine learning (ML) methodologies have become an integral part of all applications in today's scenario. The innovations in these methods are exponentially growing which validates the

importance of these techniques/methods. In spite of the wide preference of these methods, there are always hidden challenges in case of practical implementation of these methods. The challenges faced are huge which remains as a

mystery in most of the applications. In this special issue, we focus on few challenges faced by these methods for some applications and tried to provide solutions for the same. Variety of applications is covered in this special issue with an objective to prove the importance of ML techniques.

The first paper deals with the concept of gender identification among twitter users. Big data methods are used to identify the most prominent users (male/female) of twitters. This research paper focuses on decision making process with an emphasis towards business application. Task scheduling is the focus of the second paper which uses particle swarm optimisation (PSO) algorithm for optimal results. Cloud computing is also used in this work which provides additional dimension to this research work. The third paper deals with the detection of trending topics using ML techniques. Online streaming data is used in this work as input database. Deep learning approaches are employed for the detection of important topics in the internet. Resource utilisation in cloud is the major concern for wireless applications. This problem is tackled in the fourth paper with the help of the proposed novel intelligent system.

Dynamic information integration is the focal point of the fifth paper. Novel ML approaches are used in this work for this application. Medical decision support system is the important aspect of the sixth paper. ML approaches are used to improve the healthcare system with specific emphasis on maternal health during pregnancy conditions. Fuzzy systems are used in the seventh paper for semantic analysis applications. Text data is mainly used in this work for the experimental analysis. Image interpolation is the focus of the eighth paper. Edge detection approaches are used in this work for interpolating the images. This method is applicable for all the images. The ninth paper deals with the application of convolutional neural networks (CNN) for detecting the abnormalities in retinal images. Thermal retinal images are used in this work for the experimental analysis. Thus, variety of applications and ML approaches are discussed in this special issue.