Editorial

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Biographical notes: P. Vijaya received PhD in Computer Science & Engineering, Karpagam University, Coimbatore, Tamilnadu India, and Master of Technology (MTech.) (Computer Science & Engineering), Manipal Institute of Technology, Manipal, India, 2002 and Bachelor of Engineering in Electronics & Communication (BE Electronics & Communication), Regional Engineering College, Tiruchirappalli, India, 1995. She has more than 24 years of Teaching Experience. She received Prof. Indra Parekh Women Education Leader Award-2019.

Naresh Kumar Yadav received BTech. in Electrical Engineering from Maharshi Dayanand University, Rohtak (Haryana), India, MTech. in Electrical Engineering from National Institute of Technology, Kurukshetra, India and PhD degree from Jamia Millia Islamia (Central University), New Delhi, India in 2000, 2004 and 2013, respectively. He worked with Imperial Malts Ltd., Gurgaon, India from 2000 to 2002. His research interests include power system deregulation, facts applications to power system restructuring, automatic generation control etc. He received life time member of Indian Society for Technical Education. He has participated in and presented papers at many National and International Conferences.

B.S. Sunil Kumar received PhD at VTU in the area of Image and Video processing in 2017 under the guidance of Dr. A.S. Manjunath & Dr. S. Christopher- Director General & Chairman of DRDO, Masters of Technology in Computer Science and Engineering from Visvesvaraya Institute of Technology Karnataka, India, 2002, BE degree in Electrical & Electronics Engineering from Kuvempu University at UBDT College of Engineering,

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The aim of this proposal is to present research results related to imaging and signalling
modalities, theories and techniques relevant to a wide area of applications in the core new
disciplines of bioinformatics. Bioinformatics is an essential discipline that addresses the
practice of data processing for the investigation of biological evolution. The growth of
information at a huge scale has turned out to be progressively cost-efficient through the
latest advances in high-throughput imaging, signalling modalities and sequencing
innovations.

The four papers in this special issue cover a range of aspects of theoretical and
practical research development on parallel computing methodologies. Also, This special
issue offers a common platform for scientists from several areas including signal
processing, statistics, biology and medicine, who are interested in the development of
algorithmic, mathematical, statistical, modelling, simulation, data mining and
computational techniques, as demanded by various applications in genomics, proteomics,
system biology and more generally in health and medicine. Researchers and scholars are
invited to submit their original research and review articles in the field of the creation and
advancement of databases, algorithms, computational and statistical techniques and
theory to solve formal and practical problems arising from the management and analysis
of bioinformatics data.

The first paper is: 'Intelligent model for diabetic retinopathy diagnosis: a hybridised
approach' proposed a novel DR detection model, and further the proposed model tells the
severity of retinopathy from the given input fundus image. The proposed model
comprises of stages such as Segmentation, Feature Extraction and Classification. Here,
Active contour model is used for segmentation, and GLCM, and GLRM features are
extracted during feature extraction process.

In 'An exhaustive study on the lung cancer risk models' major goal of this paper is to
provide a detailed review of the distinct Lung cancer detection techniques. The existing
detection methodologies for effective lung cancer detection are deliberated in this review.
This survey is made in accordance with the utilised classification schemes, segmentation
approaches, implementation tool and the evaluation metrics in the existing lung cancer
detection methods. Moreover, the accuracy range and extracted features are considered
for the analysis over the priorly available lung cancer detection schemes.

In 'Diagnosis of abdominal mass in ultrasound images using linear collaborative
discriminant regression classification' intends to develop an advanced model for
diagnosing abdominal masses using US images. This detection technique is accomplished
in two stages including Feature extraction and Classification. During the feature
extraction process, texture feature is extracted from US image by Adaptive Gradient
Location and Orientation histogram (AGLOH). Later in the classification stage, Linear
Collaborative Discriminant Regression Classification (LCDRC) model is used to classify
whether the image is normal or abnormal. In common, LDRC obtains low dimensional
properties assisted by the classification norms of the Linear Regression Classification
(LRC). The main feature of collaborative edition is its capacity to discover the
discriminant subspace.

The last paper is 'An empirical study of the big data classification methodologies',
the primary intention of this paper is to provide a detailed survey of the various big data

classification methods for effective management cloud-based big data. This review deliberates the existing big data classification methods employed in distinct research works. The survey is made by considering the year of publication, employed methodology, evaluation metrics, datasets utilised and the implementation tool. Moreover, the adopted framework and the accuracy range are taken into account for the performance evaluation of the suggested big data classification methods.

The special issue gives quick introductions to analysis and modelling of complex systems, Comparative genomics, Data visualisation, Imaging and image analysis, Knowledge-based analysis, Machine learning and artificial intelligence in bioinformatics, Networks analysis, Novel computational method.