Editorial

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Warm greetings to all our readers!!! We hope this new year brings relief and progress to humanity. BJIT remains committed to delivering on its challenge of consistently showcasing and disseminating novel researches pertaining to computing applications and capable of altering the quality of human life. It is a matter of great privilege for me to unveil before you the fifty sixth issue i.e., Volume 16 Number 03 of the "International Journal of Information Technology" [An official Journal of Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi] with acronym BJIT. The issue is live on the Springer content platform SpringerLink and available to the prospective readers through Springer CS package globally.

Throughout the world, nations have started recognizing that Information Technology (IT) is now acting as a catalyst in speeding up the detection, correlation, and optimization in improving the quality of human life. Recent advancements in IT have touched almost every conceivable area of human life. Its degree of pervasiveness, in day-to-day life, is rapidly increasing, every new day. On the backdrop of this, BJIT has accepted the challenge to consistently showcase, disseminate and institutionalize the rapidly changing huge knowledgebase globally, with authenticity and accuracy, having special focus on the new researches pertaining to IT applications for improving the quality of day-to-day life.

Current research has expanded volumes as well as dimensions in almost all fields of human endeavor. Applications of information technology have successfully been applied in almost every field. Volume 16 Number 03 presents a compilation of sixty papers. These manuscripts were chosen out of over 700 manuscripts, that span a broad variety of topics from various emerging areas of Information Technology and Computer Science, especially addressing current research problems related to identification of sloppy users, fake news detection, detection and prevention of DDoS attack, cricket talent identification model, stabilization of wheeled-mobile robot and enhancing cryptographic key; to name a few.

Artificial Intelligence models are still considered a black box. The first manuscript in this issue, "Integrating prior knowledge to build transformer models", Pei Jiang et al. evaluates a prior-knowledge integrated transformer model to build a trustable AI model. The second manuscript "Automatic attendance system based on CNN–LSTM and face recognition", Ashish Kumar Shukla et al. propositions a novel face recognition model for attendance tracking. The manuscript "An object-oriented neural representation and its implication towards explainable AI", Enoch Arulprakash et al. implements a novel object-oriented neural representation for feature importance. The next manuscript "Identifying "sloppy" users in TMS through operation logs", Shaoyang Zhang et al. outlines a technique for distinguishing between normal and abnormal usage of a transportation management system. The next manuscript, "Fake news detection via graph-based Markov chains", Shahshank Parmar et al. introduces a novel model for fake news detection via graph-based Markov chains. The next manuscript, "Efficacy analysis of NSGAII and multi-objective particle swarm optimization (MOPSO) in agent-based weapon target assignment (WTA) model", Harinandan Tunga et al. performs an efficient model for weapon target system. The manuscript, "Mutual character dialogue generation with semi-supervised multitask learners and awareness", Ayesheh Ahari Khalaf et al. evaluates the impact of conversational generation

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system. An IoT device is an easy prey for intruders. The manuscript "Detection and prevention of DDoS attacks on edge computing of IoT devices through reinforcement learning", Anit Kumar et al. evaluates a novel reinforcement learning based security solution to IoT edge computing. The next manuscript, "An ensemble deep learning framework for fetal plane identification", Seena Thomas et al. intends to classify fetal planes through an ensemble convolution neural network model. The manuscript, "Novel characterization and tuning methods for integrating processes", Cardenas-Cabrera Jorge et al. proposes a novel methodology for process characterization and control tuning for integrated systems. The next manuscript "Fusing facial and speech cues for enhanced multimodal emotion recognition", Pragya Singh Tomar et al. advises a facial expressions and speech cues integrated approach for emotion recognition. The manuscript "Optimal multiuser uplink data detection for 5G communication networks", Madhusmita Sahoo et al. proposes an effective uplink data detection model for 5G communication networks. The manuscript "Enhancing graphical password authentication system with deep learning-based Arabic digit recognition", Areeg Fahad Rasheed etal. contends a novel, secure graphical password generation system. The manuscript "A novel ontological-based trust aware hybrid key management scheme (OTAHKMS) to enhance network lifetime and energy usage in wireless sensor networks (WSNs)", Amit Barve et al. captures the nuances of an ontological-based trust aware scheme for wireless networks. The manuscript "Stabilization of wheeled mobile robot by social spider algorithm based PID controller", Huma Khan et al. comprehends the parameter tuning of the pidcontroller of a wheeled mobile robot. The manuscript "Design of blockchain-based halal traceability system applications for halal chicken meat-based food supply chain", Aries Susanty et al. delineates the design of a traceability system based on blockchain. Machine Learning and Deep Learning applications are being used in all fields today. The manuscript "White-box inference attack: compromising the security of deep learning-based COVID-19 diagnosis systems", Burhan Ul Haque Sheikh et al. propagates the Fast Gradient Sign adversarial attack on Covid-19 diagnosis model. The manuscript "Combined weighted feature extraction and deep learning approach for chronic obstructive pulmonary disease classification using electromyography", Archana B. Kanwade et al. captures the nuances of a deep learning model to differentiate chronic obstructive pulmonary disease from other lung infections. The manuscript "A decision-making framework with machine learning for transport outsourcing based on cost prediction: an application in a multinational automotive company", Elen Yanina Aguirre-Rodriguez et al. offers a model for assessment of logistics costs in freight companies. The manuscript "An integrated ensemble learning technique for gene expression

classification and biomarker identification from RNA-seq data for pancreatic cancer prognosis", G. JagadeeswaraRao et al. details a bio-machine learning approach to identify gene biomarkers in pancreatic cancer. The manuscript "IFAS: improved fully automatic segmentation convolutional neural network model along with morphological segmentation for brain tumor detection", Akanksha Kulshreshtha et al. proposes a novel fully-automatic segmentation convolutional neural network model. The manuscript "Modelling information warfare dynamics to counter propaganda using a nonlinear differential equation with a PINN-based learning approach", Rashmikiran Pandey et al. evaluates an innovative framework to counter propaganda. The manuscript "Improving translation between English, Assamese bilingual pair with monolingual data, length penalty and model averaging", Kishore Kashyap et al. details a two base neural machine translation system for translation between Assamese and English. The manuscript "OntoDSO: an ontological-based dolphin swarm optimization (DSO) approach to perform energy efficient routing in Wireless Sensor Networks (WSNs)", Mythili Boopathi et al. proposes an energy-efficient routing mechanism for nodes in Wireless Sensor Networks. The manuscript "Global data sharing of SARS-CoV-2 based on blockchain", Hedieh Sajedi et al. analyzes shortcomings of Blockchain application in COVID-19 data sharing The manuscript, "Modified hunter prey optimization to enable secure communication for UAV", R. Yuvaraj et al. analyzes a novel routing communication approach for UAV networks. The manuscript "A secure blockchain-assisted authentication framework for electronic health records", Vipin Kumar et al. investigates a secure authentication framework for Electronic Health Records. The manuscript, "An extended FMECA approach using new risk assessment and prioritization-based approach", Mohammed Chennoufi et al. details a multi-criticality approach to estimate software failure impact. The manuscript "Explicable knowledge graph (X-KG): generating knowledge graphs for explainable artificial intelligence and querying them by translating natural language queries to SPARQL", Numair Shaikh et al. evaluates a solution that begets and implements knowledge graphs in two separate domains: finance and healthcare. The next manuscript, "Feature-enhanced deep learning technique with soft attention for MRI-based brain tumor classification", Bipin Ch. Mohanty et al. analyses a distinctive deep-learning model for MRI-based brain tumor classification. The manuscript "Machine learning assisted snort and zeek in detecting DDoS attacks in software-defined networking", Muyideen AbdulRaheem et al. suggests a snort and Zeek enabled machine learning model to classify the benign traffic from DDoS attack. The manuscript "Parameter tuning in metaheuristics: a bibliometric and gap analysis", Deepika Kaushik et al. investigates a macroscopic view of parameter tuning. The manuscript "Utilizing graph Fourier transform

for automatic Alzheimer's disease detection from EEG signals", Ramnivas Sharma et al. introduces a graphical signal processing-based approach for graph Fourier Transform. The next manuscript," A novel cooperative collision avoidance system for vehicular communication based on deep learning", Wajdi Farhat et al. details a cooperative collision avoidance system to proactively identify and locate road hazards. The manuscript "Computer aided diagnosis using Harris Hawks optimizer with deep learning for pneumonia detection on chest X-ray images", V. Parthasarathy et al. researches a novel approach for computer aided diagnosis of Pneumonia. The manuscript "Impounding behavioral connotations for hate speech analysis—a view towards criminal investigation using machine learning", Barkhashree et al. details an algorithmic technique for detailing the behavioral parameters of suspects involved in criminal investigation. The manuscript "Integrating case-based and rule-based reasoning for diagnosis and treatment of mango disease using data mining techniques", Wasyihun Sema Admass et al. characterizes a novel approach for diagnosis and treatment of mango disease. The manuscript "An experimentation of objective functions used for multilevel thresholding-based image segmentation using particle swarm optimization", Saifuddin Ahmed et al. proposes a performance analysis of varied objective functions applied to image segmentation. The manuscript "Enhancing the cryptographic key using sample entropy and whale optimization algorithm", Md Saquib Jawed et al. empirically computes a novel algorithm to generate cryptographic keys. The manuscript, "Design of a data storage and retrieval ontology for the efficient integration of information in artificial intelligence systems", Serge Stephane Aman et al. emulates an innovative approach to an ontology for storage, retrieval of data from an Artificial Intelligence-based system. The next manuscript "Particle swarm optimized deep spatio-temporal features for efficient video retrieval", Alina Banerjee et al. simulates a novel deep spatiotemporal feature extraction algorithm for efficient video retrieval. The manuscript "Bioinspired FHE model with recursive revokable selective access control for attribute-based privacy preservation", Namrata Jiten Patel et al. suggests a novel approach for attribute-based privacy preservation. The next manuscript, "Security system based on hand geometry and palmprint for user authentication in E-correction system", Hosnia M.M. Ahmed et al. evaluates a secure multimodal fusion system for user authentication of E-correction systems in academic institutions. The manuscript "A GPU scheme for multi-secret visual sharing with varied secret dimensions and contrast enhancement using blind super-resolution", M. Raviraj Holla et al. elaborates a comprehensive approach for contrast enhancement. The manuscript "Heart disease classification through crow intelligence optimization-based deep learning approach", Animesh Kumar Dubey et al. evaluates a hybrid approach for

heart disease classification. The manuscript "An improved ensemble model of hyper parameter tuned ML algorithms for fetal health prediction", Md. Simul Hasan Talukder et al. evaluates a robust ensemble framework for fetal health prediction. The next manuscript "Ensuring accountability in digital forensics with proxy re-encryption-based chain of custody", Rachana Y. Patil et al. evaluates a protocol for the chain of custody in digital forensics for secure transmission of encrypted evidence from the delegator to the delegate. The next manuscript "Combination of Optimization Methods in a Multistage Approach for a Deep Neural Network Model", Anjani Kumar Singha et al. evaluates a gradient descent optimization algorithm for deep learning. The manuscript "Orthogonal affine precoding and decoding based channel estimation and data detection in frequency reversed Alamouti coded FBMC-OQAM system", Radhashyam Patra et al. analyzes a novel orthogonal affine precoding and decoding framework. The manuscript, "CQFaRAD: Collaborative Query-Answering Framework for a Research Article Dataspace", Mrityunjay Singh et al. presents a real-time query answering system from a dataspace. The manuscript, "Wi-Fi based quadcopter drone with battery monitoring and optimization using crazyflie platform", Tej Prakash Sharma et al. recommends a Wi-Fi based drone for daily errands in metropolitan cities. Achieving optimality is a challenge. The manuscript, "Optimizing constrained engineering problem nH-WDEOA: using hybrid nature-inspired algorithm", Pawan Mishra et al. offers a simple optimization approach. The manuscript, "Machine learning-based predictive modeling of student counseling gratification: a case study of Aligarh Muslim University", Ahmad Raza Shibli et al. engrains an efficient mechanism for assessing student counseling decision making. The manuscript, "SNRLM: a cyberphysical based stepwise noise removal and learning model for automated quality assurance", Aashish Arora et al. focuses on the development of a cyber-physical system to realize efficient product quality assurance. The manuscript, "SVMCTI: support vector machine-based cricket talent identification model", Nahida Reyaz et al. employs a machine-learning based approach for cricket talent identification. The manuscript, "Empirical evaluation of Pythagorean fuzzy entropy measures with application in decision making", Hari Darshan Arora et al. proposes a multi-criteria decision-making tool for diverse domains. The manuscript, "A model fusion approach for severity prediction of diabetes with respect to binary and multiclass classification", Mohammad Zohair et al. validates a model for diabetes severity prediction. The manuscript, "The use of knapsack 0/1 in prioritizing software requirements and Markov chain to predict software success", Issac Aduhene Armah et al. introduces a novel approach for requirement prioritization and software acceptance prediction. The next manuscript, "Modelling of intrusion detection using sea horse

optimization with machine learning model on cloud environment", C. Jansi Sophia Mary et al. extends the sea horse optimization algorithm with deep-echo state network-based intrusion detection for the cloud. The last manuscript, "An optimized MCHVD approach to curtail handover failures in wireless networks", Sachin Gupta et al. outlines a multi-criteria hysteresis vertical handover decision (MCHVD) approach for wireless systems to minimize handover failure.

I am sure the contributions in this issue, which is an amalgamation of novel applications of computer science and information technology, shall pave way to improve our life and sustainability in the present environment. The manuscripts of this issue will not only enrich our readers' knowledgebase but will also motivate many of the potential researchers to take up these challenging application areas and contribute effectively for the overall prosperity of the mankind.

As a matter of policy, all the manuscripts received and considered for the Journal, are double blind peer reviewed by at-least two independent referees. Our panel of expert referees' posses a sound academic background and have a rich publication record in various prestigious journals representing Universities, Research Laboratories and other Institutions of repute, globally. Finalizing the constitution of the panel of referees, for double blind peer review(s) of the considered manuscripts, was a painstaking process, but it helped us to ensure that only the best, interesting and novel of the considered manuscripts are showcased and that too after undergoing multiple cycles of review, as required.

I thank the entire editorial board, members of the resident editorial team and our panel of experts in steering the considered manuscripts through multiple cycles of review and bringing out the best from the contributing authors. I thank my esteemed authors for having shown confidence in BJIT and considering it a platform to showcase and share their original research work. I would also wish to thank the authors whose papers could not have been published in this issue of the Journal, probably because of the minor shortcomings. However, I would like to encourage them to actively contribute for the forthcoming issues.

I will fail in my duty, if I do not thank the members of the team from the Springer, particularly Ms. Suvira Srivastav, Ms. Jeyapradha Saravanan, Ms. Anusha Gudisa, Ms. Teena Bedi and Ms. Nidhi Chandok for their constant support in realizing the issue and presenting it before you.

The undertaken Quality Assurance Process involved a series of well-defined activities that, I trust, went a long way in ensuring the quality of the publication. Still, there is always a scope for improvement, and so, I request the contributors and readers to kindly mail us their criticism, suggestions and feedback at bjit@bvicam.ac.in, which will certainly be of immense value addition in further enhancing the quality of forthcoming issues.

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