Editorial

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Warm greetings to all our readers!!! We hope this 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 forty third issue i.e. Volume 14 Number 05 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 prediction, blockchain, intelligent traffic development and 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.

Volume 14 Number 05 presents a compilation of fifty papers, chosen out of over 500 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 anomaly detection, ensemble learning, index compression, predictive modeling, factored language model, ensemble data mining and healthcare IoT applications; to name a few.

Recursive algorithms have given excellent results in image denoising. The first manuscript in this issue “Analysis of convexly combined recursive inverse algorithms”, Hasan Abu Hilal et al. evaluates the convexly linked recursive image methods. The second manuscript “iQMS: IoT-based QMS framework for tracking of quarantined subjects”, Iqbal Hasan et al. propositions an intelligent-Quarantine Monitoring System (iQMS) to facilitate authorities in remote monitoring of COVID-19 subjects. The next manuscript “Design of optimal metaheuristics based pixel selection with homomorphic encryption technique for video steganography”, M. N. Sharath et al. outlines a novel, optimal metaheuristics based pixel selection with homomorphic encryption technique for video steganography. The manuscript “Identity-based signcryption scheme for medical cyber physical system in standard model”, Rachana Yogesh Patil et al. implements a novel signcryption scheme for medical cyber-physical systems. The manuscript, “Protein secondary structure prediction using data-partitioning combined with stacked convolutional neural networks and bidirectional gated recurrent units”, Mukhtar Ahmad Sofi et al. prototypes a data partitioning approach for protein secondary structure prediction. The manuscript “To improve scalability with Boolean matrix using efficient gossip failure detection and consensus algorithm for PeerSim simulator in IoT environment”, Surendra Kumar et al. proposes an improved algorithm for the same. The next manuscript “StockGAN: robust stock price prediction using GAN algorithm”, Mohammad Diqi et al. intends to propose a novel method to accurately anticipate stock prices using a prediction model based on the
Generative Adversarial Networks (GAN) method. The manuscript “DDoS attack detection using MLP and Random Forest Algorithms”, Ashfaq Ahmad Najar contends usage of varied machine learning techniques for the detection of distributed denial of service attack packets. The next manuscript “Securing polynomial based group key management scheme against strong active adversary model”, Payal Sharma advises a polynomial-based scheme using a one way function to combat strong active adversary. The manuscript “Compactness measure of rail wheel rolling contact of the freight wagon”, Suchandana Mishra et al. addresses a novel measure of compactness using finite element analysis and stress–strain characteristics of freight wagon. The manuscript “SChain: towards the quest for redesigning supply-chain by augmenting Blockchain for end-to-end management”, Sidharth Quamara et al. captures the nuances of a Blockchain and Radio-Frequency Identification (RFID)-tailored conceptual smart supply chain model SChain, for end-to-end operation management. The manuscript “A Trie based lemmatizer for Assamese language”, Basab Nath et al. suggests a novel, hybrid system containing multiple sections for lemmatization of Assamese language. The manuscript “A novel classification to categorize original hadith detection techniques”, Alaba Ayotunde Fadele et al. delineates a mechanism for fake hadith detection techniques. Wireless rechargeable sensor networks are a promising solution to prolong the lifetime of wireless sensor networks. The manuscript “Scheduling on-demand charging request in wireless rechargeable sensor network with fruit fly optimization-based path selection”, T. Siron Anita Susan et al. propagates a novel approach called Scheduling On-demand Charging Request with FFO based optimal path (SOCR-FFO) selection. The manuscript “A common-gate cascaded with cascaded self-bias common source approach for 3.1–10.6 GHz UWB low noise amplifier”, Vikram Singh et al. captures a novel mechanism for circuit design of an UWB LNA for 3.1–10.6 GHz wireless applications. The manuscript “Machine learning based hybrid precoder with user scheduling technique for maximizing sum rate in downlink MU-MIMO system”, B. Rajarajeswarie offers an a joint framework for user scheduling and hybrid precoder for downlink Multi-User Multiple Input and Multiple Output systems. The manuscript “Extractive text summarization using deep learning approach”, Arun Kumar Yadav et al. details a novel, deep-learning based extractive text summarization model. The manuscript “Building a reverse dictionary with specific application to the COVID-19 pandemic”, Bushra Siddique et al. presents Zadeh’s paradigm of the Computational Theory of Perceptions for building a reverse dictionary wrt the COVID-19 pandemic. The manuscript “Performance evaluation for RF propagation models based on data measurement for LTE networks”, Zaenab Shakir evaluates varied radio frequency propagation wrt long-term evaluation cellular networks. The manuscript “Security framework to healthcare robots for secure sharing of healthcare data from cloud”, Saurabh Jain et al. details a novel scheme encrypt robotic healthcare data. The manuscript “An improved proxy-vehicle based authentication scheme for vehicular ad-hoc networks”, T. Sudhakar et al. develops an efficient, improved authenticated key agreement protocol for VANET. The manuscript “Improving document classification using domain-specific vocabulary: hybridization of deep learning approach with TFIDF”, Vandana Kalra et al. evaluates novel methodology for weight computation for document classification. The manuscript, “High-performance 2D photonics MOEMS pressure sensors”, Yashaswini P. R. et al. analyzes a novel pressure sensor design. Identification of the most vulnerable patients in COVID-19 is a big challenge. The manuscript, “Prioritizing severity level of COVID-19 using correlation coefficient and intuitionistic fuzzy logic”, Shahla Tarannum et al. investigates a novel method which supports medical care units in identifying the patients who need urgent medical treatment. The manuscript, “A comprehensive privacy and security framework for dynamic protection (CPSF)”, Adnan Ahmed Abi Sen et al. details a comprehensive privacy protection framework that seeks to create an effective, dynamic, and adaptive approach. The manuscript, “Modeling of software project effort estimation: a comparative performance evaluation of optimized soft computing-based methods”, Sudhir Sharma et al. evaluates the effort estimation performance of varied approaches. The next manuscript, “ORaBaN: an optimized radial basis neuro framework for anomaly detection in large networks”, N. G. Bhuvaneswari Amma et al. recommends a novel framework to detect anomalies in large networks by overcoming the underlying challenges. The manuscript, “Developing a new heuristic algorithm for efficient reliability optimization”, Deepika Garg et al. suggests a new heuristic algorithm to attain requisite reliability using the sets of minimal paths. COVID-19 has affected many important fields like sports talent identification. The manuscript,”An IoT/FOG based framework for sports talent identification in COVID-19 like situations”, Naved Jeelani Khan et al. investigates a novel, hybrid IoT/Fog-based framework for the talent identification process. The manuscript, “Mitigating TCP incast in data center networks using enhanced application layer technique”, Mahendra Suryavanshi et al. introduces an enhanced algorithm that allows consecutive workers to overlap their SRU transmissions by using Flow Overlapping Factor (FOF). The manuscript, “Self-adaptive image codec for intelligent vision sensor networks”, Ming-Li Yin et al. offers a system prototype with proposed self-adaptive protocol solution to improve the reliability of real-time image transmission. The manuscript, “Solve DNA sequence assembly problem using hybrid crow search optimization and multi classification techniques”, G. Raja et al. details a hybrid
Crow search optimization and multiple classifiers to calculate high similarity consensus sequence. The manuscript, “An approach to analyze energy consumption of an IoT system”, Hanumant Kumar Yugank et al. characterizes a hybrid model to optimize power consumption by using an artificial neural network. The next manuscript, “Detecting context-based in-claim numerals in Financial Earnings Conference Calls”, Sohom Ghosh et al. discusses a system for evaluating whether numerals present in financial texts are in-claim or out-of-claim. The manuscript, “Hybrid PID plus LQR based frequency regulation approach for the renewable sources based standalone microgrid”, Rohit Ranjan Kumar et al. outlays a proportional-integral-derivative plus linear quadratic regulator based load frequency control scheme for a renewable-based micro-grid. The manuscript, “Cube attack on stream cipher E0: revisited”, Kakumani K. C. Deepthi et al. investigates the process of cube attack in wireless networks. Meaningful modelling of clinical text is an important challenge. The manuscript, “Semantic modeling and visualization of semantic groups of clinical text documents”, Jonah Kenet al. proposes a method for modeling information in clinical narrative texts into coherent semantically meaningful classes using text classification and visualization. The manuscript, “A soft computing based novel hybrid optimization algorithm H3PGAB3C and its application to routing in WMNs”, Rattan Deep Aneja et al. empirically details a novel hybridized optimization algorithm for wireless mesh networks. The manuscript, “A hybrid optimization for threat detection in personal health crisis management using genetic algorithm”, Mou De et al. emulates a genetic algorithm based alert technique for user safety and security within specific area in real time. The next manuscript, “Boost customer churn prediction in the insurance industry using meta-heuristic models”, Jajam Nagaraju et al. simulates an algorithm for identifying the Customer churn prediction in insurance sector using Meta-heuristic methods. The manuscript, “Improved resilience of secret sharing scheme with augmented multifarious features”, Sonali Patil et al. suggests an extension of a secret sharing scheme with multiple features. The next manuscript, “An Effective and enhanced RSA based Public Key Encryption Scheme (XRSA)”, Raza Imam et al. evaluates the efficiency of the RSA algorithm in the context of generation of a more complex key pair, so that adversary should never be able to determine the private key using public-key. The manuscript, “Model for forecasting electronic fraud threats on selected electronic payment channels using linear regression”, Olubunmi Alabi et al. elaborates a model which decision makers can use to anticipate threats, provide preventive measures and calculate percentage gain in income. The manuscript, “Hunting the pertinency of hash and bloom filter combinations on GPU for fast pattern matching”, Radhakraishna Bhat et al. evaluates the impact of the choice of hash functions on the qualitative properties of the Bloom filter. Network congestion is no longer a tolerable parameter. The manuscript, “Development and performance evaluation of EQUIC protocol”, Sujit Singh Bhadouria et al. explores the modification in existing QUIC protocol to control network congestion. The next manuscript, “Algorithm for vertical handover decision using geometric mean and MADM techniques”, Siddharth Goutam et al. outlines an efficient algorithm for vertical handover decision. The manuscript, “SSHM: SMOTE-stacked hybrid model for improving severity classification of code smell”, Jatin Nanda et al. analyzes and corrects the datasets available in the literature to remove inconsistencies in the datasets. The manuscript, “Performability modeling of safety–critical systems through AADL”, Shakeel Ahamad et al. evaluates the performance and reliability of a safety–critical system. The manuscript, “Uncertainty optimization based feature subset selection model using rough set and uncertainty theory”, Arvind Kumar Sinha et al. extends uncertainty theory from the rough set perspective to find uncertainty optimization-based reducts. The last manuscript, “MFCC based ensemble learning method for multiple fault diagnosis of roller bearing”, Gangavva Choudakanavar et al. details an approach for bearing fault diagnosis.

I am sure the contributions in this issue, which is an amalgamation of novel trends and technologies to improve our life and sustainability in the present environment, will not only enrich our reader’s 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 possess 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 wish to express my sincere gratitude to 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. Bhuvaneswari Rangaswamy, 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 me their criticism, suggestions and feedback at bjit@bvicam.ac.in and help in further enhancing the quality of forthcoming issues.