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NBA Accredited UG Programs: CSE, EEE, ECE and MECH

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Journal Publication

1. Vimal.S,et.al., Self Adaptive Memetic Firefly Algorithm and CatBoost based Security Framework for IoT Healthcare Environment, Journal of Engineering Mathematics, Springer, Oct 2023, IF1.3.
2. Rajesh Kumar Garg, Surender Kumar Soni, S. Vimal, Gaurav Dhiman, 3-D Spatial Correlation Model for Reducing the Transmitting Nodes in Densely Deployed WSN, Microprocessors and Microsystems, Oct 2023, IF 2.6
3. Pradeepa S, Niveda Gaspar, Vimal.S, Subbulakshmi.P, Ahmed Alkhayyat, Kaliappan.M, Classifying Promoters by Interpreting the Hidden Information of DNA Sequences for disease prediction in clinical laboratories using Gaussian Decision Boundary Estimation Intelligent Decision Technologies, IOS Press, Oct 2023, IF 1.0.
4. N. Sasikaladevi, A. Revathi, S. Pradeepa, S.Vimal, Gaurav Dhiman, Anti-diabetic therapeutic medicinal plant identification using Deep fused Discriminant Subspace Ensemble(D2SE), International Journal of Interactive Multimedia and Artificial Intelligence, SCIE Indexed, Impact Factor: 3.6, Sep 2023.
5. Jerart Julius Lawrence, Vimal Shanmuganathan, Rajesh Manoharan, Sitharthan Ramachandran, Moustafa H. Aly, Prasun Chakrabarti, Next Generation WDM-Radio over Fiber Passive Optical Network: Deep Neural Network based Performance Analysis, Optical and Quantum Electronics, Springer, Sep 2023, IF 3.0.
6. Mufala Khan; Rakesh Kumar; Arwa N. Aledaily; Elham Kariri; Wattana Viriyasitavat; Kusum Yadav; Gaurav Dhiman; Amandeep Kaur; Ashutosh Sharma; S Vimal, A Systematic Survey on Implementation of Fuzzy Regression Models for Real Life Applications Archives of Computational Methods in Engineering, Springer, JUNE 2023, SCIE Indexed, IF 10.
7. Sitharthan R, Rajesh M, Vimal S, Saravana Kumar E, Yuvaraj S, Abhishek Kumar, Jacob Raglend I, Vengatesan K, A novel autonomous irrigation system for smart agriculture using AI and 6G enabled IoT network, Microprocessors and Microsystems, Elsevier, Volume 101,2023,104905, ISSN 0141 - 9331, <https://doi.org/10.1016/j.micpro.2023.104905>, SCIE, IF 2.6.

8. Mohit Kumar, Priya Mukherjee, Sahil Verma, Kavita, NZ Jhanjhi, S Vimal, Bandar Almutain, A Novel SDN Based Security Framework for Wireless Sensor Networks Using TDCNN and PGF-ECC, Human-centric Computing and Information Sciences, June 2023, SCIE Indexed, IF 6.558.
9. Shailendra Pratap Singh, Gaurav Dhiman, Wattana Viriyasitavat; S Vimal, Ketan Kotechan, Venkatesan Rajinikanth, Cyber Security and 5G-assisted Industrial Internet of Things using Novel Artificial Adaption based Evolutionary Algorithm Mobile Networks and Applications Springer, June 2023, SCIE Indexed, IF 3.8.
10. Neha Singh, Deepali Virmani, Gaurav Dhiman, S Vimal Multi to binary class size based imbalance handling technique in wireless sensor networks, International Journal of Nanotechnology, Inderscience, June 2023, SCIE Indexed, IF: 0.5.
11. Sasikaladevi N, Pradeepa S, Revathi A, Vimal. S, Ruben Gonzalez cresso, Diagnosis of kidney cyst, tumor and stone from CT scan images using feature fusion hypergraph convolutional neural network (F2HCN2), "International Journal for Multiscale Computational Engineering", Begel House, May 2023, SCIE Indexed, IF:1.5
12. Kusum Yadav, Kawther A. Al-Dhlan, Hamad A. Alreshidi, Gaurav Dhiman, Wattana Golf Viriyasitavat Abdullah Zaid Almankory , Kadiyala Ramana, S Vimal, Venkatesan Rajinikanth, A Novel Coarse-to-fine computational method for three dimensional landmark detection to perform hard-tissue cephalometric analysis, Expert Systems, Wiley, May 2023, SCIE Indexed, IF: 2.812.
13. Muhammad Ali Jamshed, Yazdan Ahmad Qadri, Malik Saad; Muhammad Bilal, S. Vimal, Sung Won Kim, Injecting cognitive intelligence into beyond-5G networks: A MAC layer perspective Computer and Electrical Engineering, Elsevier, April 2023, IF 4.152.
14. P.Subbulakshmi, S.Vimal, Harold Robin, Janmenjoy Nayak Amit Verma, Comparative Evaluation of Attribute- enabled Supervised Classification in Predicting the Air quality, Spatial Information Research, Springer, ESCI indexed, Feb 2023, IF 2.4.
15. Tarik A. Rashid, Bryar A. Hassan, Abeer Alsadoon, Shko Qader, S. Vimal, Amit Chhabra Zaher Mundher Yaseen, Awareness requirement and performance management for adaptive systems: a survey The Journal of Supercomputing <https://doi.org/10.1007/s11227-022-05021-1>, IF 2.557, Jan 2023.
16. Maryam T. Abdulkhaleq, Tarik A. Rashid, Bryar A. Hassan, Abeer Alsadoon, Nebojsa Bacanin, Amit Chhabra, S.Vimal, Fitness Dependent Optimizer with Neural Networks for COVID-19 patients, Computer Methods and Programs in Biomedicine-Update, Elsevier, Jan 2023, Scopus Indexed.

17. Sitharthan, S Vimal, Amit Verma, Madurakavi Karthikeya, Shanmuga Sundar Dhanabalan, Nataraja, Prabakaran M Rajesh, T Eswaran, Smart microgrid with the internet of things for adequate energy management and analysis, Computer and Electrical Engineering <https://doi.org/10.1016/j.compeleceng.2022.108556>, Jan 2023, IF 4.152.
18. SohailSaif, PriyaDas, SuparnaBiswas, Manju Khari, Vimal Shanmuganathan, HIIDS: Hybrid intelligent intrusion detection system empowered with machine learning and metaheuristic algorithms for application in IoT based healthcare Microprocessors and Microsystems, Available online 12 August 2022, 104622, Elsevier, IF 3.503.
19. Priyanka chugh Meenu Gupta, S. Indu, Gopal Chaudhary, Manju Khari, Vimal Shanmuganathan, Advanced Energy Efficient Pegasis Based Routing Protocol for Iot Applications, Microprocessors and Microsystems, Available online 21 November 2022, 104727, Elsevier, IF 3.503.
20. Azhagu Jaisudhan Pazhani.A, P. Gunasekaran, Vimal Shanmuganathan, Sangsoon Lim, Kaliappan Madasamy, Rajesh M, Amit Verma, Peer-Peer communication using Novel Slice Handover Algorithm for 5G Wireless Networks, Journal of Sensor and Actuator Networks, MDPI, ESCI Indexed, Dec 2022.
21. Janmenjoy Nayak, H. Swapnarekha, Bighnaraj Naik, Vimal Shanmuganathan, Gaurav Dhiman, 25 Years of Particle Swarm Optimization: Flourishing Voyage of Two Decades, Archives of Computational Methods in Engineering, Springer, Oct 2022, SCIE Indexed, IF 8.171
22. Bighnaraj Naik, Janmenjoy Nayak, Pandit Byomakesha Dash, S. Vimal, Seifidine Kadry Hybrid Bayesian Optimization Hypertuned Catboost Approach for Malicious Access and Anomaly Detection in IoT Framework, Sustainable Computing: Informatics and Systems, Elsevier, Oct 2022, SCIE Indexed, IF 4.923.
23. Antony Taurshia, Jasper W Kathrine, Alireza Souri, S E Vinodh, S Vimal, Kuan-Ching Li, S Sudhakar Ilango Software-Defined Network aided Lightweight Group Key Management for resource-constrained Internet of Things devices, Sustainable Computing: Informatics and Systems, Elsevier, Oct 2022, SCIE Indexed, IF 4.923.
24. Debasmita Mishra, Bighnaraj Naik, Janmenjoy Nayak, Alireza Souri, Pandit Byomakesha Dashe, S.Vimal, Light gradient boosting machine with optimized hyperparameters for identification of malicious access in IoT network, Digital Communications and Networks, Elsevier, Oct 2022, SCIE Indexed, IF 6.348.

25. Rebin M. Ahmed, polla Fattah, Abeer Alsadoon, Nebojsa Bacanin, Seyedali Mirjalili, S. Vimal, Amit Chhabra, Kurdish Handwritten Character Recognition using Deep Learning Techniques, Gene Expression Patterns, Elsevier, Sep 2022, SCIE Indexed, IF1.448.
26. L Ganesan, C.Umarani, M.Kaliappan, S.Vimal, Seifedine Kadry, Yunyoung Nam, Texture Image Analysis for Larger Lattice Structure using Orthogonal Polynomial framework, Information Technology and Control, Journal of Kaunas University of Technology, Sep 2022, IF:1.228.
27. Muhammad Bilal, Raja Majid Mehmood; S Vimal; Seong-Whan Lee, EEG-based Affective State Recognition from Human Brain Signals by Using Hjorth-Activity, Measurement, Elsevier, Aug 2022, IF 5.131.
28. K. Lakshmi Narayanan, R. Santhana Krishnan, Y. Harold Robinson, E. Golden Julie, S. Vimal, V. Saravanan, M. Kaliappan, Banana Plant Disease Classification using Hybrid Convolutional Neural Network, Computational Intelligence and Neuroscience, Hindawi, Vol.2022, Article ID 9153699, Feb.2022, <https://doi.org/10.1155/2022/9153699>, SCI, IF 3.633.
29. Xu, Xiaolong; Liu, Zhongjian, Bilal, Muhammad; Vimal, S; Song, Housing, Computation Offloading and Service Caching for Intelligent Transportation Systems with Digital Twin, IEEE Intelligent Transportation Systems Transactions, IEEE, SCIE Indexed, July 2022, Impact Factor-9.5.
30. Yongzhao Xu, Paulo C. S. Barbosa, Joel S. da Cunha Neto, Lijuan Zhang d, S.Vimal, Victor Hugo C. de Albuquerque, Subbulakshmi p, Development of intelligent and integrated technology for pattern recognition in EMG signals for robotic prosthesis command, Expert Systems , Wiley Publication, SCIE Indexed, July 2022.
31. Maryam T. Abdulkhaleq, Sazan L. Ali Tarik A. Rashid, Abeer Alsadoon, Mokhtar Mohammadi, Jaza M. Abdullah, Amit Chhabra, Rawshan N. Othman, Hadil A. Hasan, Sara Azad, Naz A. Mahmood, Sivan S. Abdalrahman, S, Vimal Hezha O. Rasul, Nebojsa Bacanin, Harmony Search: Current Studies and Uses on Healthcare Systems, Artificial Intelligence in Medicine, Elsevier, June 2022, SCIE Indexed, IF: 7.011.
32. Farhana Ajaz and Mohd Naseem, Sparsh Sharma, Gaurav Dhiman, Mohammad Shabaz, S. Vimal, Architecture and routing protocols for internet of vehicles: a review Int. J. Ad Hoc and Ubiquitous Computing, Vol. 40, Nos. 1/2/3, 2022.
33. Barzan Hussein Tahir, Tarik A. Rashid, Hafiz Tayyab Rau, Nebojsa Bacanin, Amit Chhabra, S. Vimal, Zaher Mundher Yaseen, Improved Fitness Dependent Optimizer for Solving

Economic Load Dispatch Problem Computational Intelligence and Neuroscience, Impact Factor-3.6, SCIE Indexed, June 2022.

34. Akhtar Badshah, Muhammad Waqas, Ghulam Abbas, Fazal Muhammad, Ziaul Haq Abbas, Dr. Muhammad Bilal S Vimal, LAKE-BSG: Lightweight Authenticated Key Exchange Scheme for Blockchain-enabled Smart Grids, Sustainable Energy Technologies and Assessments, Volume 52, Part C, August 2022, 102248, SCIE Indexed, Impact Factor 5.3, May 2022.

35. A.AlfredRajaMelvin, G.JaspherWKathrine, Subbulakshmi Pasupathi, S. Vimal, R.Naganathan, An AI Powered System Call Analysis with Bag of Word Approaches for the detection of Intrusions and Malware in ADFA and VMM Malware Attack Dataset Expert Systems, Wiley Publication, SCIE Indexed, May2022.

36. G. Karpagarajesh,R. Santhana Krishnan , Y. Harold Robinson, S. Vimal, S. Thamizharasan, P.Subbulakshmi, M. Kaliappan, Comparative analysis of FSO, OFC and diffused channel links in Photonics using Artificial Intelligence based S-BAND,C-BAND and L-BAND of the attenuation metrics, Sustainable Energy Technologies and Assessments, Elsevier, IF: 5.35, May 2022.

37. Xu, Xiaolong, Liu, Zhongjian; Bilal, Muhammad; Vimal, S; Song, Housing, Task Offloading and Caching with Decision Theory for Intelligent Transportation with Digital Twin, IEEE Transactions on Intelligent Transportation Systems, IF 6.492, April 2022

Conference Publications

1. Revathi, B., Usharani, C., Elizabeth, S. K., Nagaraj, P., & Nithya, D. (2024, April), Deep Learning Classification Techniques on Detecting Diabetic Retinopathy Dataset. In 2024 International Conference on Inventive Computation Technologies (ICICT) (pp. 663-668). IEEE.

2. I. Anantraj, B. Umarani, C. Karpagavalli, C. Usharani and S. J. Lakshmi, "Quantum Computing's Double-Edged Sword Unravelling the Vulnerabilities in Quantum Key Distribution for Enhanced Network Security," 2023 International Conference on Next Generation Electronics (NEleX), Vellore, India, 2023, pp. 1-5, doi: 10.1109/NEleX59773.2023.10420896.

3. C. Karpagavalli; Nelson A; R. Raja; Saranya E; Manzoore Elahi M. Soudagar; Christu Paul Ramaian. (2024), Incorporating Transfer Learning in Engine Health Assessment for Accurate Remaining Useful Life Prediction, IEEE Xplore, DOI: 10.1109/ICSADL61749.2024.00081. <https://ieeexplore.ieee.org/document/10601462>

4. S.Selva Birundha, "Crop Yield Analysis and Prediction on Indian Agriculture using Hybrid Deep Learning Model" in the National Conference on Recent Trends in Computer Science Engineering – NCRTS 2024, SRM Madurai College of Engineering and Technology on 16th April 2024.
5. M. Ramnath and C. Y. Rubavathi, "Recommendations of Smartphone Applications According to Customer Reviews and Capabilities," 2023 Second International Conference on Augmented Intelligence and Sustainable Systems (ICAISS), Trichy, India, 2023, pp. 821-825, doi:10.1109/ICAISS58487.2023.10250487.
6. Kaliappan Madasamy, Vimal Shanmuganathan, Nithish, Vishakan, Vijayabhaskar, Muthukumar, Balamurali Ramakrishnan, Ramnath.M, Benign and Malignant Cancer Prediction using Deep Learning and Generating Pathologist Diagnostic Report, Second International Conference on Internet of Things and Health (IoTHIC- 2023), October 20-21 2023, Hali University, Istanbul, Turkey, Engineering Cyber-Physical Systems and Critical Infrastructures (Scopus).
7. Karpagavalli. C; Kaliappan. M; Amuthachenthiru. K, Radial Basis Function Neural Network for Intrusion Detection and Feed Forward Artificial Neural Network for Attack Mitigation in IoT, 2023 Second International Conference on Augmented Intelligence and Sustainable Systems (ICAISS), 23-25 August 2023, Trichy, India, Publisher: IEEE, DOI: 10.1109/ICAISS58487.2023.10250458.Scopus Indexed
8. Saubhik Bandyopadhyay Pushan Kumar Dutta, Abdul Rehman Javed, Kassian T.T. Amesho, Abhimanyu Bhowmick, Rahul P, Madhushree Sannigrahi, Vimal Shanmuganathan, A new type of audio steganography with increased privacy using different ratios of LSB embedding, 6th IET Smart Cities Symposium, IET, 6-9 December 2022 Zain – e-Learning Center – University of Bahrain, Bahrain.
9. Dr.S.Sumathi, Mr.R.Rajesh, S.Vimal, Machine Learning Algorithms for Data Security in Internet Based Services, 11th ICCET 2023, Eleventh International Conference On Contemporary Engineering And Technology, Prince Shri Venkateshwara Padmavathy Engineering College Collaboration with Samarkand State University Uzbekistan, MAY 1ST – 2ND, 2023.
10. Birunda, S. S., Nagaraj, P., Jebamani, B. J. A., Revathi, B., & Muneeswaran, V. (2023, January). A Structured Analysis on IPL 2022 matches by approaching various Data Visualization and Analytics. In 2023 International Conference on Computer Communication and Informatics (ICCCI) (pp. 1-9). IEEE.
11. Revathi, B., Elizabeth, S. K., Nagaraj, P., Birunda, S. S., & Nithya, D. (2023, February). Particle Swarm Optimization based Detection of Diabetic Retinopathy using a Novel Deep

CNN. In 2023 Third International Conference on Artificial Intelligence and Smart Energy (ICAIS) (pp. 998-1003). IEEE.

12. C.Karpagavalli, Dr.R.Suganya DDoS attack detection in IoT environment using Crystal Optimized Deep Neural Network in the International conference Artificial Intelligence of Things(ICAIoT 23) organized by National Institute of Technical Teacher Training & Research(NITTTR), chandigarh.

13. C.Usharani, B.Revathi, A.Selvapandian, S.K.Keziah Elizabeth, Lung Cancer Detection in CT Images Using Deep Learning Techniques: A Survey Review, in the International Conference on Intelligent Computing and Next Generation Wireless Networks (ICNGWN – 2023) organized by Sri Venkateswara College of Engineering, Sriperumbudur, Oct 2023.

14. Sumit Kushwaha; K. Amuthachenthiru;Geetha. K;Jonnadula Narasimharao; Dileep Kumar M;Sai Sudha Gadde, Development of Advanced Noise Filtering Techniques for Medical Image Enhancement, 2024 5th International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV)

Book Chapter Publications

1. Pradeepa Sampath, Vimal Shanmuganathan, JanmenjoyNayak, Prasun Chakrabarti, Kaliappan Madasamy, A Knowledge Discovery framework for Coronavirus Disease 2019 (COVID -19) disease from PubMed Abstract using Association Rule Hypergraph (AR-Hypergraph)- Elsevier book chapter Data Science in medical field Accepted Scopus- Jan 2024.

2. P. Suresh Kumar, Pandit Byomakesha Dash, B. Kameswara Rao, S. Vimal & Khan Muhammad, Early Detection of Chronic Obstructive Pulmonary Disease Using LSTM-Firefly Based Deep Learning Model, pp 247267, DOIhttps://doi.org/10.1007/978-3-031-17544-2_11, Nature-Inspired Optimization Methodologies in Biomedical and Healthcare. Intelligent Systems Reference Library, Vol 233. Springer, Cham. https://doi.org/10.1007/978-3-031-17544-2_11, Nov 2022, Scopus Indexed.

3. Das, S., Swapnarekha, H., Vimal, S. (2023)., Integration of Blockchain Technology with Renewable Energy for Sustainable Development: Issues, Challenges and Future Direction. In: Das, A.K., Nayak, J., Naik, B., Vimal, S., Pelusi, D. (eds) Computational Intelligence in Pattern Recognition. CIPR 2022. Lecture Notes in Networks and Systems, vol 725. Springer, Singapore. https://doi.org/10.1007/978-981-99-3734-9_48

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7. Asit Kumar Das, Janmenjoy Nayak, Bighnaraj Naik, S. Vimal, Danilo Pelusi, Book Title: Computational Intelligence in Pattern Recognition, Book Subtitle Proceedings of CIPR 2022, Lecture Notes in Networks and Systems, DOI: <https://doi.org/10.1007/978-981-19-3089-8> , Publisher: Springer Singapore, Scopus Indexed, June 2023

8. D. Vetrithangam, Komala C. R., D. Sugumar, Y. Mallikarjuna Rao, C. Karpagavalli, B. Kiruthiga, (2024), AI's Role in 6G Security Machine Learning Solutions Unveiled, Source Title: Security Issues and Solutions in 6G Communications and Beyond, Pages: 19, DOI: 10.4018/979-8-3693-2931-3.ch003.

9. Ms.S.Selva Birunda published a paper titled “Detection and Prevention of Fake News and Hate Speech through Machine Learning and Natural Language Processing” in the book “Text and Social Media Analytics for Fake News and Hate Speech Detection” by Taylor and Francis Publishers. <https://doi.org/10.1201/978100340951>