

PUBLICATIONS SUMMARY

Category	Published/ Accepted	Under Review/ Revision
Refereed Journal Papers	179	10
Refereed Conference Papers	91	06
Books Authored	04	01
Books Edited	12	00
Patents Granted	01	00
Total	287	17

LIST OF REPRESENTATIVE PUBLICATIONS

A. Refereed International Journal Articles: Q1 (JCR 2024, published in June 2025)

1. Pradeep Singh and **Balasubramanian Raman**, Dual-Branch Spectral-Trend Attention Network with Gated Flux-Momentum Decomposition for Multi-Scale Financial Time-Series Forecasting, Accepted for publication in *Journal of Forecasting* (*Wiley*), 2026.
2. Pradeep Singh, Kanishk Sharma and **Balasubramanian Raman**, Adaptive Group-Weighted Convolutions: Enhancing Equivariant Networks via Learnable Symmetry Importance Maps, Accepted for publication in *Neurocomputing* (*Elsevier*), 2026.
3. Pradeep Singh, Shradhdha Agrawal and **Balasubramanian Raman**, Phase-Modulated Permutation Reservoirs for Robust Biomedical Time-Series Forecasting, Accepted for publication in *Biomedical Signal Processing and Control* (*Elsevier*), 2026.
4. Pradeep Singh and **Balasubramanian Raman**, Thalamocortical Burst Gating Enables Event-Locked Memory, Accepted for publication in *Knowledge-Based Systems* (*Elsevier*), 2025.
5. Pradeep Singh, Ojjas R. Madare and **Balasubramanian Raman**, Hodge-Projected Echo-State Networks with Topologically Anchored Memory for Chaotic Flows, Accepted for publication in *Chaos, Solitons and Fractals* (*Elsevier*), 2025.
6. Rajkumar, Swalpa Kumar Roy, Gemine Vivone, Swagatam Das, **Balasubramanian Raman** and Pravendra Singh, From Classical Image Fusion to Deep Representation Learning: A Survey of the Advances in Hyperspectral Image Pan-sharpening, Accepted for publication in *Information Fusion* (*Elsevier*), 2025.
7. Pradeep Singh, Shreyas R. Dahale, Yash Tanwar, Shruti Gupta and **Balasubramanian Raman**, Brain-Lateralized Reservoirs: Neuro-Anatomically Constrained Echo State Networks for Chaotic and Physiological Signals, Accepted for publication in *Knowledge-Based Systems* (*Elsevier*), 2025.
8. Pooja Dhayal, Pradeep Singh, Kanishk Sharma, Samarpita Sarkar, Dhani Ram Rajak, Alok Bhardwaj and **Balasubramanian Raman**, A Lightweight Dual-Stream Attention Network for Real-Time Landslide Monitoring in Multi-Modal Remote Sensing Imagery, *Remote Sensing Applications: Society and Environment* (*Elsevier*), **40**, pp. 101732, 2025.
9. Pradeep Singh, Hrishit B. P., and **Balasubramanian Raman**, Geometry-Aware Reservoirs: Patch-Wise Jacobian Lifting with Cross-Patch Couplings for Piecewise-Linear Modeling of Chaotic Flows, *Chaos, Solitons and Fractals* (*Elsevier*), **200(3)**, pp. 117160, 2025.
10. Pradeep Singh and **Balasubramanian Raman**, Turning Time into Shapes: A Point-Cloud Framework with Chaotic Signatures for Time Series, Accepted for publication in *Journal of Forecasting* (*Wiley*), 2025.

11. Puneet Kumar, Sarthak Malik, **Balasubramanian Raman** and Xiaobai Li, VISTANet: Visual Spoken Textual Additive Net for Interpretable Multimodal Emotion Recognition, *IEEE Transactions on Affective Computing*, 2025.
12. Anushka Joshi, Nithya Reddy Vedium and **Balasubramanian Raman**, DFTQuake: Tripartite Fourier Attention and Dendrite Network for Real-Time Early Prediction of Earthquake Magnitude and Peak Ground Acceleration, Accepted for publication in *Engineering Applications of Artificial Intelligence (Elsevier)*, 2025.
13. Anushka Joshi, Pradeep Singh and **Balasubramanian Raman**, IsoMapGen: Framework for Early Prediction of Peak Ground Acceleration Using Tripartite Feature Extraction and Gated Attention Model, *Computers and Geosciences (Elsevier)*, **Vol. 196**, pp. 1-15, 105849, 2025.
14. Anushka Joshi, Pradeep Singh and **Balasubramanian Raman**, A Deep Attention Model for Onsite Estimation of Earthquake Epicenter Distance and Magnitude, *IEEE Transactions on Geoscience and Remote Sensing*, **Vol. 62**, pp. 1-11, 5927511, 2024.
15. Anushka Joshi, **Balasubramanian Raman**, C. Krishna Mohan and Linga Reddy Cenkeramaddi, Application of a New Machine Learning Model to Improve Earthquake Ground Motion Predictions, *Natural Hazards (Springer)*, **Vol. 120**, pp.729-753, 2024.
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17. Puneet Kumar, Gaurav Bhat, Omkar Ingale, Daksh Goyal and **Balasubramanian Raman**, Affective Feedback Synthesis Towards Multimodal Text and Image Data, *ACM Transactions on Multimedia Computing, Communications and Applications*, **Vol. 19**, No. 6, pp. 1-23, 190, 2023.
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19. Ridhi Arora and **Balasubramanian Raman**, BUS-Net: Breast Tumour Detection Network for Ultrasound Images using Bi-directional ConvLSTM and Dense Residual Connections, *Journal of Digital Imaging (Springer)*, **Vol. 36**, No. 2, pp. 627-646, 2023.
20. Vishesh Tanwar, **Balasubramanian Raman** and Rama Bhargava, Crypt-OR: A privacy preserving distributed cloud computing framework for object-removal in the encrypted images, *Journal of Network and Computer Applications (Elsevier)*, **Vol. 208**, 103514, 2022.
21. Puneet Kumar and **Balasubramanian Raman**, A BERT Based Dual-Channel Explainable Text Emotion Recognition System, *Neural Networks (Elsevier)*, **Vol. 150**, pp. 392-407, 2022.
22. M. Tanveer, A.H. Rashid, Rahul Kumar and **Balasubramanian Raman**, Parkinson's Disease Diagnosis with Deep and Shallow Neural Networks: Survey and Comprehensive Evaluation, *Information Processing and Management (Elsevier)*, **Vol. 59**, No. 3, pp. 1-50, 102909, 2022.
23. Nidhi Saxena and **Balasubramanian Raman**, Pansharpening scheme using bi-dimensional empirical mode decomposition and neural network, *ACM Transactions on Multimedia Computing, Communications and Applications*, **Vol. 18**, No. 4, pp. 1-22, 108, 2022.
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25. Amitesh Singh Rajput and **Balasubramanian Raman**, Privacy-Preserving Distribution and Access Control of Personalized Healthcare Data, *IEEE Transactions on Industrial Informatics*, **Vol. 18**, No. 8, pp. 5584-5591, 2022.
26. Gyanendra, Samba Raju Chiluveru, **Balasubramanian Raman**, Manoj Tripathy and Brajesh Kumar Kaushik, Memory Efficient Architecture for Lifting-based Discrete Wavelet Packet Transform, *IEEE Transactions on Circuits and Systems II: Express Briefs*, **Vol. 68**, no. 4, pp. 1373-1377, 2021.
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28. Rahul Kumar, Brajesh Kumar Kaushik, **Balasubramanian Raman** and Gaurav Sharma, A Hybrid Dehazing Method and Its Hardware Implementation for Image Sensors, *IEEE Sensors Journal*, **Vol. 21**, No. 22, pp. 25931-25940, 2021.
29. Himanshu Buckchase and **Balasubramanian Raman**, Towards Zero Shot Learning of Geometry of Motion Streams and Its Application to Anomaly Recognition, *Expert Systems With Applications (Elsevier)*, **Vol. 177**, pp. 1-12, 114916, 2021.
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34. Vishesh Tanwar, **Balasubramanian Raman**, Amitesh Rajput and Rama Bhargava, CryptoLesion: A Privacy-preserving Model for Lesion Segmentation using Whale Optimization over Cloud, *ACM Transactions on Multimedia Computing Communications and Applications*, **Vol. 16**, No. 2, Article No.: 50, pp 1-23, 2020.
35. Debanjan Sadhya, Kanjar De, **Balasubramanian Raman** and Partha Pratim Roy, Efficient Extraction of Consistent Bit Locations from Binarized Iris Features, *Expert Systems with Applications (Elsevier)*, **Vol. 140**, 112884, 2020.
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40. Debanjan Sadhya, Kanjar De, **Balasubramanian Raman** and Partha Pratim Roy, Development of a clustering based fusion framework for locating the most consistent IrisCodes bits, *Information Sciences (Elsevier)*, **Vol. 491**, pp. 1-15, 2019 (JCR 2022).
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42. Priyanka Singh, Partha Pratim Roy and **Balasubramanian Raman**, Writer Identification using Texture Features: A comparative study, *Computers and Electrical Engineering (Elsevier)*, **Vol. 71**, pp. 1-12, 2018.
43. Anjali Gautam, **Balasubramanian Raman** and Shailendra Raghuvanshi, A Hybrid Approach for the Delineation of Brain Lesion from CT Images, *Biocybernetics and Biomedical Engineering (Elsevier)*, **Vol. 38**, No.3, pp. 504-518, 2018.
44. Priyanka Singh, Nishant Agarwal and **Balasubramanian Raman**, Secure Data Deduplication using Secret Sharing Schemes over Cloud, *Future Generation Computer Systems (Elsevier)*, **Vol. 88**, pp. 156-167, 2018.
45. Rajkumar Saini, Barjinder Kaur, Priyanka Singh, Pradeep Kumar, Partha Pratim Roy, **Balasubramanian Raman** and Dinesh Singh, Dont Just Sign Use Brain Too: A Novel Multimodal Approach for User Identification and Verification, *Information Sciences (Elsevier)*, **Vols. 430-431**, pp. 163-178, 2018 (JCR 2022).
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B. Refereed International Journal Papers: Q2 (JCR 2024, published in June 2025)

63. Pradeep Singh and **Balasubramanian Raman**, Semantic Spherical Mixup: Geometry-Aware Data Augmentation in Latent Manifolds for Parameter-Efficient Language Model Adaptation, Accepted for publication in *Knowledge and Information Systems (Springer)*, 2026.
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65. Amit Monga, Hemkant Nehete, Tharun kumar Reddy Bollu and **Balasubramanian Raman**, DAIRNet: Degradation-aware All-in-one Image Restoration Network with cross-channel feature interaction, Accepted for Publication in *Journal of Visual Communication and Image Representation (Elsevier)*, 2025.
66. Puneet Kumar and **Balasubramanian Raman**, Interpretable Image Emotion Recognition: A Domain Adaptation Approach Using Facial Expressions, , Accepted for publication in *Multimedia Tools and Applications (Springer)*, 2025.

67. Nitin Tyagi, Sarvagya Porwal, Pradeep Singh, **Balasubramanian Raman** and Neerja Garg, Spectral Band Attention Networks for Efficient Multi-Feature Fusion in Hyperspectral and RGB Data with Ensemble Deep Learning Networks, Accepted for publication in *Journal of Nondestructive Evaluation (Springer)*, 2025.
68. Manish Kumar Bairwa, Abhishek, **R Balasubramanian** and Paramasivan Arumugam, Integrating Physics Insights into Machine Learning: A Case Study with Giant Dipole Resonance, Accepted for publication in *Physica Scripta (IOPscience)*, 2025.
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75. Kishore Babu Nampalle, Shriansh Manhas and **Balasubramanian Raman**, Medical image security and authenticity via dual encryption, *Applied Intelligence (Springer)*, **Vol. 53**, pp.20647-20659, 2023.
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79. Anjali Gautam and **Balasubramanian Raman**, Brain Strokes Classification by Extracting Quantum Information from CT Scans, *Multimedia Tools and Applications (Springer)*, **vol. 82**, pp. 15927-15943, 2023.

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