CURRICULUM VITAE

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Dr. MANISH KUMAR

Work Experience:

[Dec 2005-Continue]- **Indian Institute of Information Technology (IIIT), Allahabad**
Currently as an **Associate Professor.**

[July 2004- June 2005]- **Lecturer** in the Computer Science and Information Technology Department at **Birla Institute of Technology and Science (BITS), Pilani, Rajasthan.**

[September 2002- July 2004]- **Associate Lecturer** and **Research Associate** cum Tutor in the Computer Science Department at **Birla Institute of Technology(BIT), Mesra, Ranchi.**

Professional Membership/Association:
- Senior Member, IEEE [Member #: 90580456]
- ACM [Member #: 1417948]
- International Association of Engineers
- Secretary, IEEE Computer Society, UP Section, India

Academic/Administrative Responsibilities (other than teaching)

S.No.	Position	Responsibility	Duration
1.	Associate Dean(Sales & Purchase)	Overseeing and helping the institute in the procurement of materials/equipment.	2021-continue
2.	Advisor - Prayagraj Smart City Project Ltd.-A Govt. of India initiatives.	Providing guidance, expertise, and strategic advice in the smart city initiatives.	2019-continue

3.	Coordinator, Institute Collaboration with Prayagraj Smart City Ltd.- A Government of India Initiative.	To develop high-end technology to upgrade citizen-centric services.	2023-continue
4.	Coordinator, Collaboration, Data Analytics lab-IIIT, Allahabad and Network Computing laboratory Chungbuk National University, South Korea	Collaborative Research and Innovation	2023-continue
5.	Chairman, Center for Short Term Certification Programme (CSTCP)	Program Development, Quality Assurance, Strategic planning, etc.-Responsible for Course generation for Industry Professional-Online mode	2022-continue
6.	Secretary, IEEE Computer Society, (U.P. Section)	Collaboration for research and development, Section Communications	at present
6.	Member of Subcommittee to supervise ICT projects under Smart City Mission, PSCL.	Project Oversight, Technology Evaluation, Post-Implementation Review	2023-continue
7.	Nodal Officer, IIIT-Allahabad, Ek Bharat Shreshtha Bharat	Coordination, Implementation of Initiatives, Awareness and Outreach	2022-continue
8.	Stream Chair: M.Tech(IT) specialization in Data Engineering	Curriculum Development, Program Management, Assessment and Evaluation, Research Support	2021-continue
9.	Member of Advisory Board: M.tech in Data Science & Analytics	Program Management, Assessment and Evaluation, Research Support	2021-23

Past responsibilities:

1. Programme Co-ordinator, MLBDA Certificate Course, IIIT-Allahabad & TalentEdge, Prayagraj
2. Mentor-Startup "Social Vaidya Medical Pvt Ltd" by IIIT-A Alumni
3. Chairman, Council of Wardens (COW), Hostels, IIIT Allahabad
4. Convener, Departmental Undergraduate Committee (DUGC-IT Dept.)
5. Chairman, Senate Undergraduate Committee(SUGC)
6. Faculty In-charge (Sports)
7. Estate officer. IIIT Allahabad
8. Warden (Boys hostel-4)
9. Faculty Advisor (Sports), IIIT-A
10. Faculty In-charge (Maintenance Cell, Computers, and Labs.)

Educational Qualification:

S.No.	Examination	University/ Institution	Main Subjects	Year of Passing
1.	Ph.D.	Indian Institute of Information Technology, Allahabad	Wireless Sensor Network	2011
2.	M.Tech	Birla Institute of Technology, Mesra	Computer Science	2002
3.	Post Graduate Diploma	Birla Institute of Technology, Mesra	Computer Application	2000
3.	M.S.	Delhi University, Delhi.	Operational Research	1999

Area of Research/Interest:

- Big Data Analytics,
- Machine Learning & Data Analytics,
- IoT & Smart City applications,
- Wireless Sensor Network (Data Processing, Event Detection, Data Aggregation).

Laboratory developed/initiated

- Coordinator, Data Analytics Lab (DAL), IIIT Allahabad
- Executed MoU between Network Computing Lab(NCLAB), Chungbuk National University, South Korea and Data Analytics lab(DAL), IIIT Allahabad, India.

Industry/organization Collaboration

1. Member of Advisory Board "Prayagraj Smart City Project"
2. Member of Subcommittee to supervise ICT projects under Smart City Mission, PSCL.
3. Program Coordinator for Certificate course on "Machine Learning Big Data Analytics" at IIIT (CSTCP) & Talent Edge (Industry partner)- for working professionals
4. Member eMentor Team: IBM Great Mind Software Contest (2005-2007).

New Course Content generation:

1. Chairman of the committee "Course structure and Syllabus creation M.Tech IT specialization in Data Engineering
2. Member of Advisory Board, New course Titled "M.tech in Data Science & Analytics" for the Department of Applied Science (Course structure & Syllabus).

Projects Completed/Ongoing

S. No.	Name of the project	Funding Agency/Division	Cost (in INR)	Status
1.	STI Hub in ICT at IIITA	DST, Govt. of India.	1.86 Cr.	Ongoing
2.	Development of Security Audit Framework for Secure IoT Network	DST, Govt of India through C3iHub, IIT Kanpur	2.7 Cr.	Ongoing
3.	Design and Development of Dimensionality Reduction Techniques for Cyber-Physical Systems	DST, Govt. of India.	31.28 Lakh	Completed
4.	IoT-based water quality assessment for river Ganga	Ministry of Education-IIIT-Allahabad	10 Lakh	Completed

Books

"Applied Big Data Analytics in Operations Management" " by IGI Global publications, USA, September 2016. (**SCOPUS Indexed**)

Books Reviewed

Chapter Review: Introduction to Languages and Theory of Computation, 3/e by John C.Martin, McGraw-Hill Education India Ltd.

Editor/Reviewer of Following Refereed Journals

Associate Editor: *EAI* Endorsed Transactions on Scalable Information Systems

Area Editor: *EAI* Endorsed Transactions on Cloud System

Review Editor: Frontiers Sensors

Reviewers:

- Systems Journal, Elsevier.
- IETE Journal of Research - Taylor & Francis.
- Sadhana – Springer.
- Wireless Personal Communications
- IEEE Systems Journal
- KSII Transactions on Internet & Information Systems
- International Journal of Information Retrieval Research (IJIRR)
- Pattern Recognition Letters
- IEEE Sensors Journal
- IEEE Transactions on Network Science and Engineering
- Multimedia Tools and Applications
- IETE Journal of Research
- AEU-International Journal of Electronics and Communications
- International Journal of Sensor Networks
- International Journal of Electronics

Publications

List of Journal Publication (SCI/SCIE)

1. Raut, A., Maurya, M.K., Chaurasiya, V.K. et al. Adaptive hyperparameter optimization for short-term traffic flow prediction with spatial-temporal correlated raster data. **Evolving Systems** (2023). (Impact Factor: **3.2**)
2. Kumar, Manish, Pramod Kumar Singh, Manish Kumar Maurya, and Anubhav Shivhare. "A survey on event detection approaches for sensor-based IoT." **Internet of Things** (2023): 100720., (Impact Factor: **5.9**)

3. Mishra, Suryanshi, Tinku Singh, Manish Kumar, and Satakshi. "Multivariate time series short-term forecasting using cumulative data of coronavirus." **Evolving Systems** (2023): 1-18. (Impact Factor: **3.2**).

4. Singh, Tinku, Shivam Gupta, and Manish Kumar. "Adaptive load balancing in cluster computing environment." **The Journal of Supercomputing** (2023): 1-29. (Impact Factor: **3.3**).

5. Shivhare, A., Singh, V.K. & Kumar, M. Event detection using the user context in sensor based IoT. Wireless Netw 29, 2577–2589 (2023)(Impact Factor: **3.0**).

6. Raut, Ashwin, Anubhav Shivhare, Vijay Kumar Chaurasiya, and Manish Kumar. "AEDS-IoT: Adaptive clustering-based Event Detection Scheme for IoT data streams." **Internet of Things** 22 (2023): 100704. (Impact Factor: **5.9**)

7. Singh, T., Sinha, A., Singh, S. et al. Distributed hyperparameter optimization-based multivariate time series forecasting. **Multimedia Tools Appl** (2023) (Impact Factor: **3.6**)

8. A. Pal, A. Chowdhury, Satakshi, H. S. Narman, A. Chowdhury and M. Kumar, "Random Partition Based Adaptive Distributed Kernelized SVM for Big Data," in **IEEE Access**, vol. 10, pp. 95623-95637, 2022, (Impact Factor: **3.9**)

9. Manish Kumar, Tinku Singh, Manish Maurya, Anubhav Shivhare, Ashwin Raut and Pramod Kumar Singh, "Quality Assessment and Monitoring of River Water Using IoT Infrastructure" **IEEE-Internet of Things Journal** (2023), (Impact Factor: **10.6**).

10. Tinku Singh, Nikhil Sharma, Satakshi and Manish Kumar, "Analysis and forecasting of air quality index based on satellite data" **Taylor and Francis-Inhalation Toxicology** (2022), (Impact Factor: **2.724**).

11. Tinku Singh, Vinarm Rajput, , Umesh Prasad and Manish Kumar, "Real-time traffic light violations using distributed streaming" **Springer-The Journal of Supercomputing** (2022), (Impact Factor: **3.3**).

12. Tinku Singh, Riya Khanna, Satakshi and Manish Kumar "Improved multi-class classification approach for imbalanced big data on spark" **Springer-The Journal of Supercomputing** (2022), (Impact Factor: **2.474**).

13. Tinku Singh, Riya Kalra, Suryanshi Mishra, Satakshi and Manish Kumar "An efficient real-time stock prediction exploiting incremental learning and deep learning" **Springer-Evolving Systems** (2022), (Impact Factor: **3.2**) .

14. Anubhav Shivhare, Manish Maurya, Zafar Sarif and Manish Kumar" A secret sharing-based scheme for secure and energy-efficient data transfer in sensor-based IoT" **Springer-The Journal of Supercomputing** (2022), (Impact Factor: **3.3**)

15. Adarsh Prakash Bahera, Puja Rani, Shekhar Verma and Manish Kumar, "Curvature Regularized Similarity Based Ricci Flow Embedding" **IEEE Transactions on Emerging Topics in Computational Intelligence**, (2022), (Impact Factor: **5.3**) .

16. Adarsh Prakash Bahera, Elisha Parhi, Shekhar Verma and Manish Kumar, "WSN Localization Using Similarity-Based Ricci Flow Embedding" **IEEE Sensors Journal**, VOL. 21, NO. 19, OCTOBER 1, 2021, (Impact Factor: **4.301**) .

17. Adarsh Prakash Bahera, Jagriti Singh, Shekhar Verma and Manish Kumar, "Data Visualization through Non Linear Dimensionality Reduction using Feature Based Ricci Flow Embedding" **Multimedia Tools and Applications**. 1-21(2021), (Impact Factor: **3.6**) .

18. Adarsh Prakash Bahera, Elisha Parhi, Shekhar Verma and Manish Kumar, "WSN Localization using Similarity Based Ricci Flow Embedding" **IEEE Sensors Journal** (2021): 1-10, (Impact Factor: **4.301**)

19. Prashant Kumar Shukla, Abhishek Singh, Shekhar Verma and Manish Kumar "A Rotation based Regularization Method for Semi-supervised Learning" **Pattern Analysis and Application** (2021): 1-19. (Impact Facter **3.9**)

20. Prashant Kumar Shukla, Abhshek Singh, Shekhar Verma and Manish Kumar. "Interpreting SVM for medical images using Quadtree." **Multimedia Tool and Applications** (Volume 79) (2020): 29353–29373. (Impact Facter **2.313**)

21. Adarsh Prakash Bahera, Abhshek Singh, Shekhar Verma and Manish Kumar. "Manifold Learning with Localized Procrustes Analysis Based WSN Localization." **IEEE Sensors Letters** (Early Access) (2020): 1-4.

22. Pal, Amrit, and Manish Kumar. "Distributed synthesized association mining for big transactional data." **Sādhanā** (2020): 1-13. (Impact Factor: **1.6**).

23. Shivhare, Anubhav, Vishal Krishna Singh, and Manish Kumar. "Anticomplementary Triangles for Efficient Coverage in Sensor Network-Based IoT." **IEEE Systems Journal** 14, no. 4 (2020): 4854-4863. (Impact Factor: **4.4**).

24. Singh, Vishal Kumar, Bhoomika Nathani, and Manish Kumar. "WEED-MC: Wavelet Transform for Energy Efficient Data Gathering and Matrix Completion," **IEEE Transactions on Parallel and Distributed Systems** (2019): 1066-1073 (Impact Factor: **2.6**).

25. Singh, Vivek Kumar, Shekhar Verma, and Manish Kumar. "Stream Processing With Concept Drift for Event Identification in Sensors Enabled IoT Environment ," **IEEE Sensors Journal** (2019): 12187 - 12195 (Impact Factor: **4.373**).

26. Singh, Vishal Krishna, Vivek Kumar Singh, and Manish Kumar. "Network Health Monitoring of WSNs Using Node Loss Rate Calculations." **Wireless Personal Communications** (2019): 1-16 (Impact Factor: **2.2**).

27. Singh, Vivek Kumar, Shekhar Verma, and Manish Kumar. "ODECS: An OnDemand Explosion-Based Compressed Sensing Using Random Walks in Wireless Sensor Networks." **IEEE Systems Journal** (2019) (Impact Factor: **4.4**).

28. Pal, Amrit, and Manish Kumar. "DLME: Distributed Log Mining Using Ensemble Learning for Fault Prediction." **IEEE Systems Journal** (2019) (Impact Factor: **4.4**).

29. Pal, Amrit, and Manish Kumar. "Pattern mining for large distributed dataset: A parallel approach (PMLDD)." **KSII Transactions on Internet & Information Systems** 12, no. 11 (2018) (Impact Factor: **0.611**).

30. Pal, Amrit, and Manish Kumar. "Frequent Itemset Mining in Large Datasets a Survey." **International Journal of Information Retrieval Research** (IJIRR) 7, no. 4 (2017): 37-49.(Impact Factor: **1.1**).

31. Jain, Neeraj, Shekhar Verma, and Manish Kumar. "Low Cost Localization using Nyström Extended Locally Linear Embedding." **Pattern Recognition Letters** (2018)(Impact Factor: **5.5**).

32. Jain, Neeraj, Shekhar Verma, and Manish Kumar. "Patch based LLE with Selective Neighborhood for Node Localization." **IEEE Sensors Journal** (2018)(Impact Factor: **4.3**).

33. Vishal Krishna Singh, Manish Kumar, and Shekhar Verma. "Node Scheduling and Compressed Sampling for Event Reporting in WSNs." In **IEEE Transactions on Network Science and Engineering** (2018), Doi: 10.1109/TNSE.2018.2799845.(Impact Factor: **6.6**).

34. Vishal Krishna Singh and Manish Kumar 'In-network data processing in wireless sensor networks using compressed sensing', **Int. J. Sensor Networks** (2018), Vol. 26, No. 3, pp.174–189. (SCI) (Impact Factor- **1.1**), InderScience Publishers.

35. Vishal Krishna Singh, Manish Kumar and Shekhar Verma, "Accurate Detection of Important Events in WSNs," (2018) in **IEEE Systems Journal** (SCI) (Impact Factor- **4.4**), vol. PP, no.99, pp. 1-10. Doi: 10.1109/JSYST.2017.2783353.

36. Singh, Vivek Kumar, Shekhar Verma, and Manish Kumar. "DBCS: A Decomposition Based Compressive Sensing for Event Oriented Wireless Sensor Networks." **Wireless Personal Communications** 99, no. 1 (2018): 351-369.(Impact Factor:**2.2**)

37. Singh, Vishal Krishna, Vivek Kumar Singh, and Manish Kumar. "In-Network Data Processing Based on Compressed Sensing in WSN: A Survey." **Wireless Personal Communications**: 1-38. (2017). doi:10.1007/s11277-017-4288-y. (Impact Factor:**2.2**)

38. Singh, Vishal Krishna, Rahul Verma, and Manish Kumar. "Energy Efficient Event Detection Using Probabilistic Inference in Wireless Sensor Networks." **IETE Journal of Research** (2017): 1-11. (Impact Factor: **0.909**)

39. Singh, Vishal Krishna, Gajendra Sharma, and Manish Kumar. "Compressed sensing based acoustic event detection in protected area networks with wireless multimedia sensors." **Multimedia Tools and Applications** 76, no. 18 (2017): 18531-18555. (Impact Factor:**3.6**)

40. Singh, Vishal Krishna, Rahul Verma, and Manish Kumar. "Voronoi Neighbor Based Energy Efficient Event Detection in Wireless Sensor Networks." **AEU-International Journal of Electronics and Communications** (2017). (Impact Factor: **1.147**)

41. Singh, Vishal Krishna, and Manish Kumar. "In-network data processing in wireless sensor networks using compressed sensing." **International Journal of Sensor Networks** 26, no. 3 (2018): 174-189.

42. Singh, Vishal Krishna, and Manish Kumar. "A Compressed Sensing Approach to Resolve the Energy Hole Problem in Large Scale WSNs." **Wireless Personal Communications** 99, no. 1 (2018): 185-201. (Impact Factor:**2.2**)

43. Jain, Neeraj, Shekhar Verma, and Manish Kumar. "Adaptive Locally Linear Embedding for Node Localization in Sensor Networks." **IEEE Sensors Journal** 17, no. 9 (2017): 2949-2956. (Impact factor: **4.312**)

44. Jain, Neeraj, Shekhar Verma, and Manish Kumar. "Incremental LLE for Localization in Sensor Networks." **IEEE Sensors Journal** 17, no. 19 (2017): 6483-6492. (Impact factor: **4.3**)

45. Singh, V.K., Singh, V.K. & Kumar, M., "In-Network Data Processing Based on Compressed Sensing in WSN: A Survey," **Wireless Personal Communication** (2017) 96: 2087. (Impact factor -**0.957**).

Scopus Indexed

46. Singh, Tinku, Shivam Gupta, and Manish Kumar. "Performance analysis and deployment of partitioning strategies in Apache Spark." Procedia Computer Science 218 (2023): 594-603.

47. Sharma, Gajendra, Manish Kumar, and Shekhar Verma. "An Approach of Automatic Data Collection and Categorization." In Artificial Intelligence and Evolutionary Computations in Engineering Systems, pp. 527-536. Springer, Singapore, 2018. [Scopus Indexed]

48. G. Sharma, M. Kumar and S. Verma "Realistic acoustic sensor network deployment and radio coverage in terrain profile using 3d modeling" accepted in Springer–Advances in Intelligence and Soft Computing (AISC) [Scopus Indexed]

49. Pal, Amrit, and Manish Kumar. "Frequent Itemset Mining in Large Datasets a Survey." International Journal of Information Retrieval Research (IJIRR) 7, no. 4 (2017): 37-49. [Scopus Indexed]

50. Singh, Vishal Krishna, and Manish Kumar. "Hierarchical compressed sensing for cluster based wireless sensor networks." Int J Adv Comput Sci Appl 1, no. 7 (2016): 58-67.

51. Kumar, Manish, Shekhar Verma, and Kusum Lata. "Secure data aggregation in wireless sensor networks using homomorphic encryption." International Journal of Electronics 102.4 (2015): 690-702

52. Kumar, Manish, Santanu Das, and Sneha Govil. "Analysis of Stock Volatility Clustering Using ANN." Information Resources Management Journal (IRMJ) 28.2 (2015): 32-45

53. Kumar, Manish, Shekhar Verma, and Neerav Agarwal. "GMCA: a greedy multilevel clustering algorithm for data gathering in wireless sensor networks." International Journal of Communication Networks and Distributed Systems 11.2 (2013): 198-213.

54. Kumar, Manish, and Sumit Kumar. "Pattern Generation for complex Data using Hybrid Mining" International Journal of Data Mining & Knowledge Management Process 3.4 (2013): 127.

55. Kumar, Manish, Pritish Kumar Varadwaj, and Shekhar Verma. "Two-phase clustering based aggregation of sensor data." International Journal of Data Mining, Modelling and Management 2.3 (2010): 216-237.

56. Kumar, Manish, Monalisa Panigrahi, and Shekhar Verma. "XQuery based Query Processing Architecture in Wireless Sensor Networks." International Journal of Computer Applications 43.23 (2012). [Non Scopus]

List of Accepted Papers (International/National Conference)

1. M. K. Maurya and M. Kumar "Accurate and Decentralized Approach for Traffic Flow Prediction Using Federated Learning" presented in IEEE 27th International Computer Science and Engineering Conference 2023 (13-15 September).

2. Singh, Tinku, Vinarm Rajput, Nikhil Sharma, Satakshi, and Manish Kumar. "Distributed Item Recommendation Using Sentiment Analysis." In Proceedings of International Conference on Data Science and Applications: ICDSA 2022, Volume 1, pp. 265-279. Singapore: Springer Nature Singapore, 2023.

3. Singh, Pramod Kumar, Anubhav Shivhare, Ashwin Raut, and Manish Kumar. "IoT-Based Plant Disease Detection and Classification: A Study on Learning Models." In Advances in Data-driven Computing and Intelligent Systems: Selected Papers from ADCIS 2022, Volume 2, pp. 137-150. Singapore: Springer Nature Singapore, 2023.

4. Singh, Tinku, Siddhant Bhisikar, Satakshi, and Manish Kumar. "Stock Market Prediction Using Ensemble Learning and Sentimental Analysis." In Machine Learning, Image Processing, Network Security and Data Sciences: Select Proceedings of 3rd International Conference on MIND 2021, pp. 429-441. Singapore: Springer Nature Singapore, 2023.

5. Sinha, Ayush, Tinku Singh, Ranjana Vyas, Manish Kumar, and O. P. Vyas. "A Methodological Review of Time Series Forecasting with Deep Learning Model: A Case Study on Electricity Load and Price Prediction." In Machine Learning, Image Processing, Network Security and Data Sciences: Select Proceedings of 3rd International Conference on MIND 2021, pp. 457-479. Singapore: Springer Nature Singapore, 2023.

6. Singh, Tinku, Nikhil Sharma, Vinarm Rajput, Suryanshi Mishra, and Manish Kumar. "Air quality analysis during COVID-19 utilizing satellite data." In 2022 2nd International Conference on Intelligent Technologies (CONIT), pp. 1-8. IEEE, 2022.

7. "Distributed Decision Fusion for Large Scale IoT-Ecosystem" in 15th IEEE International Symposium on Embedded Multicore/Many-core Systems-on-Chip (MCSoC), December 19-22, 2022, Penang, Malaysia.

8. "Cluster-Based Smart Random Walk for Data Aggregation in Wireless Sensor Network" in 15th IEEE International Symposium on Embedded Multicore/Many-core Systems-on-Chip (MCSoC), December 19-22, 2022, Penang, Malaysia.

9. "Sound Event Detection using Federated Learning" in 9th IEEE UP Section International Conference on Electrical, Electronics and Computer Engineering 2-4 December 2022, IIIT Allahabad, India.

10. "A Methodological review of Time Series Forecasting with Deep Learning Model : A Case study on Electricity Load and Price Prediction"," in 3rd International Conference on Machine Learning, Network Security and Data Sciences, December 11-12, 2021, National Institute of Technology, Raipur, Chhattisgarh, India.

11. "A Hybrid Approach based Stress Monitoring System for Offce Environment using IoT" in IEEE 19th India Council International Conference, 24th to 26th Nov 2022, Kochi Kerala, India.

12. "Performance Analysis and Deployment of Partitioning Strategies in Apache Spark International Conference on Machine Learning and Data Engineering" in 7th International Conference on Machine Learning and Data Engineering, September 07-08, 2022 UPES, Dehradun, India.

13. "IoT Based Plant Disease Detection and Classification: A Study on Learning Models" in International Conference on Advances in Data-driven Computing and Intelligent Systems (ADCIS), July 12- 14, 2022.

14. "Air Quality Analysis During COVID-19 Utilizing Satellite Data", (CONIT), " in 2nd International Conference on Intelligent Technologies, June 24-26, 2022, Karnataka, India.

15. "COVID-19 Short Term Forecasting Using LSTM"," in 3rd International Conference on Recent Innovative Trends in Computer Science and Applications (ICRITCSA-2022), Bangalore, Karnataka, India, India, May 6-7, 2022.

16. "Distributed Item Recommendation using Sentiment Analysis", " in 3rd International Conference on Data Science and Applications (ICDSA 2022), March 26-27, 2022, Jadavpur University, Kolkata, India.

17. "Stock Market Prediction Using Ensemble Learning and Sentimental Analysis"," in 3rd International Conference on Machine Learning, Image Processing, Network Security and Data Sciences, December 11-12, 2021, National Institute of Technology, Raipur, Chhattisgarh, India.

18. Ashwin Raut, Anubhav Shivhare, Neetesh Purohit, Vijay Kumar Chaurasiya and Manish Kumar "Improving Classification Accuracy Using Data Fusion Technique in IoT" in International Conference on, Pacific Asia Conference on Information Systems (PACIS2021), July 12- 14, 2021.

19. Tinku Singh, Riya Khanna, Satakshi Singh and Manish Kumar "Multiclass Imbalanced Big Data Classification Utilizing Spark Cluster" in 12th International Conference on Computing Communication and Networking (ICCCNT 2021), July 6 - 8, 2021.

20. Tinku Singh, Siddhant Bhisikar, Satakshi Singh and Manish Kumar "Fingerprint Identification using Modified Capsule Network" in 12th International Conference on Computing Communication and Networking (ICCCNT 2021), July 6 - 8, 2021.

21. Ashwin Raut, Anubhav Shivhare, Neetesh Purohit, Vijay Kumar Chaurasiya and Manish Kumar "Improving Classification Accuracy Using Data Fusion Technique in IoT" " in International Conference on, Pacific Asia Conference on Information Systems (PACIS2021), July 12- 14, 2021.

22. Adarsh Prasad Behera, Sayli Godage, Shekhar Verma, and Manish Kumar "Regularized Deep Convolutional Generative Adversarial Network" " in International Conference on, IAPR International Conference on Computer Vision and Image Processing (CVIP2020), December 4-6, 2020.

23. Tinku Singh, Ashwin Raut, Satakshi, Dhruv Agarwal, Rahul Jha, Anant Rai, and Manish Kumar "Food Recommendation System using Neural Collaborative Filtering and Sentiment Analysis" " in International Conference on, Advancements in Interdisciplinary Research (ICAIR2020), july 2020.

24. Singh, V.K., Shivhare, Anubhav and Manish Kumar. "Sparse Matrix Completion for Effective Recommendation System" In International Conference on VLSI, Communication and Signal Processing, 2018.

25. Pal, Amrit, and Manish Kumar. "Applying Big Data Intelligence for Real Time Machine Fault Prediction." In International Conference on Big Data Analytics, pp. 376-391. Springer, Cham, 2018.

26. A. Pal, M. Kumar,"Pattern generation from event oriented sensor data using distributed sensor transaction model "MISNC-2017, 17-19 July, proceeding in ACM.

27. Singh, V.K., Verma, S. & Kumar, M., "Jellyfish Detection Using Wireless Sensor Networks," is accepted for publication in International Conference on Information and Communication Technology (CICT-2017), 3-5 November.

28. Singh, Vishal Krishna, Saurabh Verma, and Manish Kumar. "Privacy preserving in-network aggregation in wireless sensor networks." Procedia Computer Science 94 (2016): 216-223, 11th International Conference on Future Networks and Communications (FNC-2016).

29. Singh, Vishal Krishna, Ankur Kumar Rai, and Manish Kumar. "Sparse Data Recovery using Optimized Orthogonal Matching Pursuit for WSNs." Procedia Computer Science 109 (2017): 210-216, ANT-2017, 17-19 May.

30. Singh, Vishal Krishna., Ajit Singh, and Manish Kumar. "Data aggregation based link loss inference in wireless sensor networks." In Electrical Computer and Electronics (UPCON), 2015 IEEE UP Section Conference on, pp. 1-5. IEEE, 2015.

31. Jain, Neeraj, Shekhar Verma, and Manish Kumar. "Locally linear embedding for node localization in wireless sensor networks." In Computational Intelligence and Communication Networks (CICN), 2015 International Conference on, pp. 126-130. IEEE, 2015.

32. G. Sharma, M. Kumar and S. Verma, "Monitoring deforestation using acoustic signals," 2016 International Conference on Bioinformatics and Systems Biology (BSB), Allahabad, 2016, pp. 1-4.

33. "Combined mining approach to generate patterns for complex data, " in International conference on computer science and information technology, February 18-20, 2013, Banglore.

34. "Rule extraction in Health care data, " in National Seminar on Data Mining in Health Care (supported by CSIR), June 1-2, 2013, IIIT, Allahabad.

35. "Quantitative Trait Loci (QTL) Database Analysis for Finding Association among Traits," in International Conference on Bioinformatics and System Biology, 19-21 Feb 2010.

36. Published in IEEE Xplore paper titled "Clustering approach to Data Aggregation in Wireless Sensor Networks," in ICON-2008, 12-14 December, 2008, IIT Roorkee.

37. Published in IEEE Xplore paper titled "Data Clustering in Sensor Networks using ART," in WCSN 2008, 27-29 December, 2008, IIIT-Allahabad.

38. Published in IEEE Xplore paper titled "Querying video sensor networks, " in WCSN-2007, 11-15 December 2007, IIIT-Allahabad.

Book Chapters

1. "Optimizing Software Error Proneness Prediction Using Bird-Mating Algorithm" accepted for publication in book "Software Project Management for Distributed Computing: Life-Cycle Methods for Developing Scalable and Reliable Tools." Springer(2016)

2. "Predictive Analytics in Operations Management" for the book "Applied Big Data Analytics in Operations Management (2016):68." under the IGI-Global publisher, USA. (2016)

3. "Collaborative Filtering Based Data Mining for Large Data" for the book "Collaborative Filtering Based Data Mining for Large Data (2016):115" under the IGI-Global publisher, USA. (2016)

4. "Rules Extraction using Data Mining in Historical Data" for the book "Business Intelligence: Concepts, Methodologies, Tools, and Applications (2015):263" under the IGI-Global publisher, USA. (2015)

5. "Rule optimization of Web-logs data using Evolutionary Technique" for the book "Research Methods: Concepts, Methodologies, Tools, and Applications (2015):158" IGI-Global publisher, USA (2015)

6. "Rules Extraction using data mining in Historical data" for the book "Data mining and Analysis in engineering field" (2014):89. [IGI-Global publisher, USA]

7. "Applications of data mining in social network analysis" for the book "Data mining in Dynamic Social Networks and Fuzzy Systems (2013), pp. 110-121." under the IGI-Global publisher, USA. (2013)

Invited Talks

1. "MapReduce Framework", Workshop on "Big Data Technologies", 21 - 25 June, 2021, Tula's Institute (The Engineering & Management College) Dhoolkot, Dehradun. (Online Mode)

2. "Introduction to DM & Association Mining", Workshop on "Machine learning and Data Analytics (MLDA-2021)", 28 May - 11 June, 2021 IIIT, Allahabad. (Online Mode)

3. "Classification- DT, Bayesian", Workshop on "Machine learning and Data Analytics (MLDA-2021)", 28 May - 11 June, 2021 IIIT, Allahabad. (Online Mode)

4. "Hierarchical and Density based Clustering of large data", Workshop on "Machine learning and Data Analytics (MLDA-2021)", 28 May - 11 June, 2021 IIIT, Allahabad. (Online Mode)

5. "Big Data Analytics (MR, Spark)", Workshop on "Machine learning and Data Analytics (MLDA-2021)", 28 May - 11 June, 2021 IIIT, Allahabad. (Online Mode)

6. "Clustering of Large Data/Big Data", AICTE sponsored One Week Short Term Training Programme (STTP) on "Data science and Machine learning", 28th May, 2021, Narula Institute of Technology, Agarpara, Kolkata. (Online Mode)

7. "Hierarchical clustering", Faculty Development Programme (ATAL-AICTE) on "Machine Learning and Optimization", 1 - 5 February, 2021, IIIT- Allahabad, Prayagraj. (Online Mode)

8. "Database Management in Mobile Computing/Sensor Network", Faculty Development Programme on "Artificial Intelligence and Ambient Intelligence – Phase 1", 25th January to 6th February 2021, Hindustan Institute of Technology and Science , Chennai. (Online Mode)

9. "Clustering for IoT Data", Faculty Development Programme (ATAL-AICTE) on "Data Science for IoT", 9- 13 October, 2020, IIIT- Allahabad, Prayagraj. (Online Mode)

10. "Time Series Data Clustering", Workshop on "Time Series Data Analysis (TSDA-2020)", 28th -29th August, 2020, IIIT- Allahabad, Prayagraj. (Online Mode)

11. "Database Management in Mobile Computing Environment", Seminar on "Emerging Trends in Networking", VIT Chennai on 20th January 2020.

12. "Data Mining" expert lecture at BIT- Mesra, Ranchi, Jharkhand (Online Mode)

13. "Advanced Database Technology, Expert Lecture at United Engineering College, Prayagraj, UP (Online Mode)

14. "Big Data Algorithm", Faculty Development Programme (ATAL-AICTE) on "Data Sciences" , 8th-12th November, 2019, IIIT- Allahabad, Prayagraj.

15. "Mining data", Faculty Development Programme (ATAL-AICTE) on "Data Sciences" , 8th-12th November, 2019, IIIT- Allahabad, Prayagraj.

16. "Distributed Database Systems", Faculty Development Programme on "Blockchain" , 21st-25th October, 2019, IIIT- Allahabad, Prayagraj.

17. "Distributed Database", Workshop on "Big Data Analytics and Machine Learning" , 19th-22nd October, 2019 Global Academy of Technology, Bangalore.

18. "Distributed Database and Consensus Protocols ", Workshop on "Block Chain" , 16th September to 20th September, 2019 MNNIT- Allahabad, Prayagraj.

19. "Data Management in Mobile Computing", Faculty Development Programme on "Emerging Trends in Networking" , 24 June - 28 June, 2019 Centre for Advanced Studies, AKTU, Lucknow.

20. "Big Data Mining and Multi Relational Data Mining", Workshop on "Machine Learning & Data Analytics 2019" , 25 May - 31 May, 2019 IIIT Allahabad.

21. "New Trends in Wireless Sensor Networks",Technical Education Quality Improvement Programme on "Advances in Wireless and Optical Networks" , 27 May - 01 June, 2019 Rajkiya Engineering College, Azamgarh, UP.

22. "Data Management in Mobile Computing", International Conference on "Knowledge & Policy for Sustainable Development: Global Lessons and Local Challenges" from 25th September to 27th September, 2019 at GGS Indraprastha University, Delhi.

23. "Distributed Database and Consensus Protocols ", Workshop on "Block Chain", from 16th September to 20th September, 2019 MNNIT- Allahabad, Prayagraj.

24. "Mining Data and Big data algorithms" International Conference on "MACHINE INTELLIGENCE AND SIGNAL PROCESSING, MISP-2019" from September 7-10, 2019, IIIT- Allahabad, Prayagraj.

25. "Current Trends in Integration of IoT with Blockchain Technology" from 11th March to 15th March, 2019 under TEQIP-III at Rajkiya Engineering College, Azamgarh, UP.

26. "Advancement in Machine Learning for Business Intelligence: Concepts, Techniques and Applications" during Feb. 26-Mar.02, 2019 at I.E.R.T. Prayagraj.

27. "Lecture on e-Learning" on 11th February, 2019, in workshop of Faculty Development Centre sponsored by MHRD.

28. "Big Data in Life Sciences and Healthcare (BDLSH-2019)", 12 - 13 of February, 2019 at Amity University Uttar Pradesh, Lucknow Campus.

29. "Data Mining Algorithms-Large Enough", Faculty Development Programme on "Data Mining", 1 June – 6 June, 2018 Shambhunath Institute of Engineering & Technology, Allahabad.

30. "Data management in Mobile Computing", Faculty Development Program on "Advance Computer Network", 1 May - 5 May, 2018 United College of Engineering and Research, Allahabad.

31. "Parallel and Distributed Data Stream Mining" under the aegis of GIAN (Global Initiatives of Academic Networks) sponsored by MHRD (Ministry of Human Resource Development), 19 -23 December 2017 at Indian Institute of Information Technology, Allahabad.

32. "Mining Big Data", Workshop on "Machine learning and Data Analytics (MLDA-2017)", 13 July - 18 July, 2017 IIIT, Allahabad.

33. "Social Network Analysis", Workshop on "Machine learning and Data Analytics (MLDA-2017)", 13 July - 18 July, 2017 IIIT, Allahabad.

34. "IoT and Wireless Sensor Networks", Short Term Course on "Workshop on Antenna Design and Signal Processing Techniques for 5G Networks and IoT" (ADSPNIT-2017), 27 Feb - 4 March, 2017 MNNIT, Allahabad.

35. "Mining Large Data", Short Term Course on "Workshop on Emerging Trends in Communication & Information Technology" (COMMIT-2017), 30 Jan - 3 Feb, 2017 SHUATS, Allahabad.

36. Keynote Speaker, in on "International workshop on Role of technological advances, incubation themes and engineering skills (TAITES-2016)", at CIT Kokarajhar, Assam, 21-23 January, 2016.

37. Advances in database management systems", in on "Inservice course of PGT (CS) of Kendriya Vidyalaya Sangathan", Allahabad, 26th May 2016.

38. Keynote Speaker, in on "National workshop on Creation and Establishment of Virtual Classroom and e-Learning", at SHIATS Allahabad, 5-6 May, 2015.

39. "Data Management in mobile computing", Short Term Course on "Mobile, Ad hoc and Vehicular Communication" (MAVECOM-2013), July 22-27, 2013 MNNIT, Allahabad.

40. "Database Systems" in "Workshop on AFRES and PRIME", held at Headquarter North Central Railway-Allahabad during 24-28 January 2011.

41. "Application of Database Management Systems in Agriculture" in "National Training program on Trends in Bioinformatics and Computation Systems: Exploring Interconnections for Molecular Biological Applications" , under "National Agriculture Innovation Project", 16-29 July 2011 at National Bureau of Agriculturally Important Microorganisms (NBAIM), Mau. U.P.

42. "Multidimensional modeling and data mining application" in "Short term course on Data Digitization, Data Warehousing & Data Mining" in 24-28th 2009 supported by DIT,MCIT,GOI organized by IIIT, Allahabad.

43. "Data management in Wireless Sensor Networks" in "pre-conference Workshop of WCSN", 11-15 December 2007 at IIIT-Allahabad.

44. "Database Technology", Finishing school for engineering students June 1-July 15, 2008 IIIT-Allahabad.

Workshop/Short term courses organized

1. Coordinator of workshop titled as '6th Workshop on Machine Learning and Data Analytics (MLDA) - June 2023' held in IIIT-Allahabad.

2. Coordinator of workshop titled as 'Self-Financed Course-cum Workshop on "Data Science & its Application Areas' (14May-17 May, 2022) in IIIT Allahabad.

3. Coordinator of workshop titled as '5th Workshop on Machine Learning and Data Analytics (MLDA) - June 2022' held in IIIT-Allahabad.

4. Course Coordinator of Talentedge CSTCP Industry Partner workshop titled as "Workshop on Machine Learning and Big Data Analytics" (MLBDA)-2021) , 27 June, 2021 - 27 June, 2022 at IIIT Allahabad.

5. Coordinator of workshop titled as 'Faculty Development Programme on Data Science for IoT' (9-13 Oct, 2020) in IIIT Allahabad.

6. Coordinator of workshop titled as 'Self-Financed Course-cum Workshop on "Time Series Data Analysis' (28-29 August, 2020) in IIIT Allahabad.

7. Coordinator of workshop titled as 'Faculty Development Programme on Data Science' (8-12 Nov, 2019) in IIIT Allahabad.

8. Coordinator of CSIR and DST-SERB sponsored workshop titled as 'Workshop on Machine Learning and Data Analytics (MLDA)-2019' (25-31 st May) in IIIT Allahabad.

9. Coordinator of workshop titled as 'Workshop on Machine Learning and Data Analytics (MLDA) - June 2018' held in IIIT-Allahabad.

10. Coordinator of CSIR and DST sponsored workshop titled as 'Workshop on Machine Learning and Data Analytics (MLDA) - July 2017' held in IIIT-Allahabad.

11. Coordinator of DST-CSIR sponsored workshop on "Machine learning and Data analytics" 13 July-18 July 2017 at IIIT Allahabad.

12. Coordinator of IEEE Workshop on Computational Intelligence, 13-15th October 2014

13. Co-coordinator of "Finishing school for engineering students", A training program held during June 1-July 15, 2008 at IIIT-Allahabad.

Conference/workshop/seminar (Program Committee member)

1. "Conference Chair of ISEC' 2023: 16th Innovations in Software Engineering Conference" February 23-25, 2023, IIIT Allahabad.

2. "Publication Chair of UPCON' 2022: The 9th "IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering" December 2-4, 2022, IIIT Allahabad.

3. "Technical Program Committee member of ICAAAIML' 2022: Third International Conference on Advances and Applications of Artificial Intelligence and Machine Learning" September 16-17, 2022, School of Engineering & Technology, Sharda University.

4. Session chair of VCAS 2020: Third International Conference on VLSI, Communication, and Signal Processing held at MNNIT Allahabad in October 2020.

5. Session chair of International Conference on Advancements in Interdisciplinary Research (ICAIR2020) held at IIIT Allahabad in July, 2020 December 2011.

6. Organizing committee member of International conference on Wireless Communication and Sensor Networks held at IIIT Allahabad in 15-19th December 2011.

7. Organizing committee member of International conference on Wireless Communication and Sensor Networks held at IIIT Allahabad in 15-19th December 2011.

8. Organizing committee member of International conference on Wireless Communication and Sensor Networks held at IIIT Allahabad in 15-19th December 2010.

9. Organizing committee member of International conference on Wireless Communication and Sensor Networks held at IIIT Allahabad in 15-19th December 2009.

10. Organizing committee member of Science Conclave for Nobel Laureates held at IIIT Allahabad in 8-14th December 2009.

11. Organizing committee member of Science Conclave for Nobel Laureates held at IIIT Allahabad in December 2008.

12. Organizing committee member of International conference on Wireless Communication and Sensor Networks held at IIIT Allahabad in December 2008.

13. Organizing committee member of International conference on Wireless Communication and Sensor Networks held at IIIT Allahabad in December 2007.

14. Organizing committee member of International conference on Wireless Communication and Sensor Networks held at IIIT Allahabad in December 2006.

15. Organizing committee member of All India VC Conference held at IIIT Allahabad in November 2005.

16. Participated in "International seminar on Empowering Visually Impaired Through ICT" April 15-16, 2009 at RGIIT, Amethi.

14. Attended National Workshop on NPTEL (National Programme for technology Enhanced Learning) on 27-28th June 2007 at IIT, Kanpur.

15. Attended "International conference of forum of scientists from south and south East Asia on: Capacity building in science and technology, policy perspective, opportunities and challenges in the context of globalization. 27-29th November 2007, INSA(Indian National Science Academy) , New Delhi

16. Attended "National Seminar on Empowering Rural Health Through ICT" (at RGIIT-Amethi (a campus of IIIT-Allahabad)), 19-20 Aug 2007

17. Participated in International conference cum workshop on 4G mobile technology held at Birla Institute of Technology, Mesra, Extension Centre, Noida in December 2004.

(**Manish Kumar)**