Dr. Riti Kushwaha

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Employment History

27 Sept 2021 – Present	🔖	**Assistant Professor**, SCSET, Bennett University.
23 Feb 2021 – 25 Sept 2021	🔖	**Assistant Professor**, CSE, Galgotia College of Engineering & Technology.
31 July 2018 – 30 April 2019	🔖	**Assistant Professor**, CSE, IEC Engineering College.
31 July 2015 – 15 May 2017	🔖	**Guest Faculty**, CSE, MNIT Jaipur.
16 July 2013 – 25 July 2015	🔖	**Assistant Professor**, CSE, JECRC UDML College of Engineering.
01 July 2012 – 30 June 2013	🔖	**Assistant Professor**, CSE, BMIT Jaipur.

Education

2016 – 2021	🔖	**Ph.D., Computer Science, MNIT Jaipur**, 8.33 CGPA. Thesis title: *Person Recognition using Foot-Print Biometric Trait.*
2010 – 2012	🔖	**M.Tech. Computer Science, MNIT Jaipur**, 7.47 CGPA. Thesis title: *Facial Expression Recognition..*
2006 – 2010	🔖	**B.Tech. Computer Science, AKTU Lucknow**, 65.7%.
2005 – 2006	🔖	**12th Math/Science, UP Board Lucknow**, 77%.
2003 – 2004	🔖	**10th Math/Science, UP Board Lucknow**, 70%.

Research Publications

Journal Articles

1 Soan Banerjee, Gaurav Singal, Sarathi Saha, Himanshu Mittal, Manu Srivastava, Asis Mukherjee, Sayak Mahato, Barnali Saikia, Sudipta Thakur, Suman Samanta, Riti Kushwaha, and Deepak Garg. "Machine Learning approach to Predict net radiation over crop surfaces from global solar radiation and canopy temperature data". In: *International Journal of Biometeorology* 66.12 (2022), pp. 2405–2415.

2 Shikha Bhalla, Ashish Kumar, and Riti Kushwaha. "Analysis of recent techniques in marine object detection: a review". In: *Multimedia Tools and Applications* (2024), pp. 1–99.

3 Shikha Bhalla, Ashish Kumar, and Riti Kushwaha. "Feature-adaptive FPN with multiscale context integration for underwater object detection". In: *Earth Science Informatics* 17.6 (2024), pp. 5923–5939.

4 Ujjwal Kadam, Riti Kushwaha, Arvind Meena, Chaudhary Abuzar, Gaurav Singal, Madhushi Verma, et al. "Hazardous Object Detection for Visually Impaired People Using Edge Device". In: *SN Computer Science* 6.1 (2025), pp. 1–13.

5 Riti Kushwaha and Neeta Nain. "PUG-FB: Person-verification using geometric and Haralick features of footprint biometric". In: *Multimedia Tools and Applications* 79.3-4 (2020), pp. 2671–2701.

6 Riti Kushwaha and Nain Neeta. "Facial Expression Recognition". In: *International Journal of Current Engineering and Technology, ISSN 2277 - 4106* 2.2 (2012), pp. 270–278.

7 Riti Kushwaha, Gaurav Singal, and Neeta Nain. "A texture feature based approach for person verification using footprint bio-metric". In: *Artificial Intelligence Review* 54.2 (2021), pp. 1581–1611.

8 Riti Kushwaha, Gaurav Singal, and Neeta Nain. "Rediscovering Minutiae Matching through One Shot Learning's Siamese Framework in Poor Quality Footprint Images". In: *IEEE Transactions on Biometrics, Behavior, and Identity Science* (2024), pp. 1–1. 🔗 DOI: 10.1109/TBIOM.2024.3399402.

9 Riti Kushwahaa, Neeta Nain, and Promila Jangraa. "Extraction of Lip Contour from Face". In: *International Journal of Current Engineering and Technology, ISSN 2277 - 4106* 2.2 (2012), pp. 279–283.

10 Junaid Rashid, Saba Batool, Jungeun Kim, Wasif Nisar, and Riti Kushwaha. "An augmented artificial intelligence approach for chronic diseases prediction". In: *Frontiers in Public Health* 10 (2022), p. 559.

11 Jerry W Sangma, Yogita, Vipin Pal, Neeraj Kumar, and Riti Kushwaha. "FHC-NDS: Fuzzy Hierarchical Clustering of Multiple Nominal Data Streams". In: *IEEE Transactions on Fuzzy Systems* 31.3 (2022), pp. 786–798.

12 Gaurav Singal, Vijay Laxmi, Manoj Singh Gaur, D Vijay Rao, Riti Kushwaha, Deepak Garg, and Neeraj Kumar. "QoS–aware Mesh-based Multicast Routing Protocols in Edge Ad Hoc Networks: Concepts and Challenges". In: *ACM Transactions on Internet Technology (TOIT)* 22.1 (2021), pp. 1–27.

13 Gaurav Singal, Vijay Laxmi, Manoj Singh Gaur, Swati Todi, Vijay Rao, Meenakshi Tripathi, and Riti Kushwaha. "Multi-constraints link stable multicast routing protocol in MANETs". In: *Ad Hoc Networks* 63 (2017), pp. 115–128.

14 Gaurav Singal, Himanshu Singhal, Riti Kushwaha, Venkataramana Veeramsetty, Tapas Badal, and Sonu Lamba. "RoadWay: lane detection for autonomous driving vehicles via deep learning". In: *Multimedia Tools and Applications* 82.4 (2023), pp. 4965–4978.

15 Mukhtar Opeyemi Yusuf, Divya Srivastava, and Riti Kushwaha. "Resolution invariant urban scene classification using Multiview learning paradigm". In: *Digital Signal Processing* (2023), p. 104078. ISSN: 1051-2004. 🔗 DOI: https://doi.org/10.1016/j.dsp.2023.104078.

Conference Proceedings

1 Hardik Agarwal, Yash Jindal, Piyush Singh, Gaurav Singal, and Riti Kushwaha. "An Approach for Dam Monitoring and Alerting System Using IoT". In: *International Conference on Signal, Machines, Automation, and Algorithm*. Springer. 2023, pp. 55–70.

2 Shrey Aggarwal, Rishabh Ranjan, Manasvi Sinha, Vipin Pal, and Riti Kushwaha. "CNN and Bilstm Based Framework for Real Life Violence Detection from CCTV Videos". In: *2024 IEEE Region 10 Symposium (TENSYMP)*. IEEE. 2024, pp. 1–6.

3 Shubham Agrawal, Nitin Kumar, Lakshya Panwar, Riti Kushwaha, Gaurav Singal, and Vandana Bhatia. "IoT-Based Automatic Vehicle Safety Monitoring System in Tunnels". In: *International Conference on Signal, Machines, Automation, and Algorithm*. Springer. 2023, pp. 101–112.

4 Shikha Bhalla, Ashish Kumar, and Riti Kushwaha. "A Novel Underwater Marine Dataset with Diverse Scenarios for Robust Object Detection". In: *Proceedings of the 2024 Sixteenth International Conference on Contemporary Computing*. 2024, pp. 1–11.

5 Shikha Bhalla, Ashish Kumar, and Riti Kushwaha. "Comparative Analysis on Brain Stroke Prediction using Machine Learning". In: *2023 14th International Conference on Computing Communication and Networking Technologies (ICCCNT)*. 2023, pp. 1–6. 🔗 DOI: 10.1109/ICCCNT56998.2023.10308218.

6 Anav Chaudhary, Maanas Talwar, Avil Goel, Gaurav Singal, and Riti Kushwaha. "De-Fence: LoRa Based Hop-to-Hop Communication". In: *IC3-2022*. Noida, India: Association for Computing Machinery, 2022, pp. 629–637. ISBN: 9781450396752. 🔗 DOI: 10.1145/3549206.3549312.

7 Riti Kushwaha and Neeta Nain. "Person Identification Using Footprint Minutiae". In: *Proceedings of 3rd International Conference on Computer Vision and Image Processing: CVIP 2018, Volume 2*. Springer. 2019, pp. 285–299.

8 Riti Kushwaha, Neeta Nain, and Sandeep Kumar Gupta. "Person identification on the basis of footprint geometry". In: *2016 12th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*. IEEE. 2016, pp. 164–171.

9 Riti Kushwaha, Neeta Nain, and Gaurav Singal. "Detailed analysis of footprint geometry for person identification". In: *2017 13th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*. IEEE. 2017, pp. 229–236.

10 Riti Kushwaha, Neeta Nain, and Gaurav Singal. "Mira: Moment invariability analysis of footprint features". In: *2018 IEEE 8th international advance computing conference (IACC)*. IEEE. 2018, pp. 196–201.

11 Riti Kushwaha, Neeta Nain, and Gaurav Singal. "Transfer Learning Based Approach for Human Foot Image Classification". In: *Proceedings of the International Conference on Computer Science (I3CS)*. Nehu Shillong, Mar. 2023, Not applicable.

12 Riti Kushwaha, Himanshu Rawat, Suman Bando, Aman Kumar Dass, Lakshya Panwar, Divya Srivastava, and Gaurav Singal. "Enhancing Class Monitoring Through Video Analytics and Deep Learning Models". In: *2023 International Conference on Modeling, Simulation & Intelligent Computing (MoSICom)*. IEEE. 2023, pp. 538–543.

13 Monalisa Mahapatra, Naman Gupta, Riti Kushwaha, and Gaurav Singal. "Data Breach in Social Networks Using Machine Learning". In: *Advanced Computing*. Ed. by Deepak Garg, Sarangapani Jagannathan, Ankur Gupta, Lalit Garg, and Suneet Gupta. Cham: Springer International Publishing, 2022, pp. 660–670. ISBN: 978-3-030-95502-1.

14 Aadi Nirbhavane, Riti Kushwaha, Gaurav Singal, Abhinav Tomar, Vipin Pal, and Ankur Gupta. "HydroPro: An IoT-Based Smart Water Bottle". In: *2024 IEEE Region 10 Symposium (TENSYMP)*. IEEE. 2024, pp. 1–6.

15 Bhavya Pareek, Priyanka Gupta, Gaurav Singal, and Riti Kushwaha. "Person identification using autonomous drone through resource constraint devices". In: *2019 Sixth International Conference on Internet of Things: Systems, Management and Security (IOTSMS)*. IEEE. 2019, pp. 124–129.

16 Divyanshu Rao, Aryan Sharma, Hrishikesh Shah, Gaurav Singal, Riti Kushwaha, and Vandana Bhatia. "Jal Setu: Smart Water Tank for Homes and Public Places". In: *2023 4th International Conference on Computing and Communication Systems (I3CS)*. IEEE. 2023, pp. 1–6.

17 Amit Sharma, Dibyanarayan Hazara, Suneet Kumar Gupta, Riti Kushwaha, and Divya Kumari. "Potato Leaf Disease Classification Using Federated Learning". In: *International Conference on Recent Trends in Image Processing and Pattern Recognition*. Springer. 2023, pp. 191–201.

18 Aryaman Sharma, Harshit Gupta, Tabishi Singh, Gaurav Singal, and Riti Kushwaha. "NayanCom-A Smart Patient Communication System". In: *2023 26th Conference of the Oriental COCOSDA International Committee for the Co-ordination and Standardisation of Speech Databases and Assessment Techniques (O-COCOSDA)*. IEEE. 2023, pp. 1–8.

19 Vishal Shrivastav, Sudhanshu Tiwari, Gaurav Singal, Riti Kushwaha, Tulika Tewari, Ankur Gupta, et al. "Depression Detection by Using Wearable Sensors". In: *2024 IEEE Region 10 Symposium (TENSYMP)*. IEEE. 2024, pp. 1–6.

20 Gaurav Singal, Dinesh Gopalani, Riti Kushwaha, and Tapas Badal. "Automatic Parallelization of C Code Using OpenMP". In: *Emerging Technologies in Computer Engineering: Microservices in Big Data Analytics*. Ed. by Arun K. Somani, Seeram Ramakrishna, Anil Chaudhary, Chothmal Choudhary, and Basant Agarwal. Singapore: Springer Singapore, 2019, pp. 298–309. ISBN: 978-981-13-8300-7.

21 Gaurav Singal, Vijay Laxmi, Manoj Singh Gaur, D Vijay Rao, and Riti Kushwaha. "UAVs reliable transmission for multicast protocols in FANETs". In: *2019 Sixth International Conference on Internet of Things: Systems, Management and Security (IOTSMS)*. IEEE. 2019, pp. 130–135.

22 Shanmukha Sai Sumanth Yenneti, Riti Kushwaha, Smita Naval, and Gaurav Singal. "Leading Athlete Following UAV Using Transfer Learning Approach". In: *Advanced Computing*. Singapore: Springer Singapore, 2021, pp. 424–433. ISBN: 978-981-16-0401-0.

Books and Chapters

1 Ashish Thomas, Jyoti Grover, Gaurav Singal, and Riti Kushwaha. *Smart Vehicles for Traffic Management and Systems Using Cloud Computing*. Ed. by Jyoti Grover et al. IGI Global, 2018, pp. 178–199. 🔗 DOI: `10.4018/978-1-5225-3981-0.ch008`.

Patents

1 Riti Kushwaha et al. "Beecatcher Drone". Design Patent 339083-001. Indian Patent Published. Feb. 2021.

2 Riti Kushwaha, Ankur Gupta, and Madhushi Verma. "Virtual Reality Headset". Design Patent 359735-001. Indian Patent Granted. Mar. 2022.

3 Riti Kushwaha, Rohit Sachan, Sonal Kukreja, and Richa Golash. "D-Oral: Oral Health Monitoring System for Dog". Design Patent 385663-001. Indian Patent Granted. May 2023.

4 Riti Kushwaha and Gaurav Singal. "Breast Monitoring Pad". Design Patent 359730-001. Indian Patent Granted. Mar. 2022.

Workshop Grants Received

1 Riti Kushwaha, Lokesh Sharma, Suneet Gupta, and Shivani Goel. *From Data to Deployment: A hands-on AI and NLP Workshop (AHAN-2022)*. SERB Sponsored 1-Week Workshop. 30 01 2023 to 03 02 2023 2023.

2 Riti Kushwaha and Vinod Shastri. *Innovation and Entrepreneurship*. AICTE MIC Sponsored 1-Week FDP. 24/03/2025- 28/03/2025 2025.

3 Simar Preet Singh, Riti Kushwaha, Suneet Gupta, Akanksha Singh, and Ishan Budhiraja. *An Integrated Approach for Computing Resources: Cloud with Internet of Things (CIoT-2023)*. SERB Sponsored 1-Week Workshop. May 2023.

Grants/ Awards Received

1 *Graduate Aptitude Test in Engineering (GATE)*. 94 percentile. 2010.

2 *MEITY Ph.D. Fellowship, Visvesvaraya PhD scheme for Electronic and IT*. MEITY Part-time Fellowship. 2016–2021.

3 *MHRD M.Tech. Fellowship, Department of Computer Science, MNIT Jaipur*. MHRD Fellowship. 2010–2012.

Skills

Languages	■	Strong reading, writing, and speaking competencies in English, and Hindi.
Coding	■	C, C++, PHP, Python, LaTeX, …
Academic	■	Teaching, training, consultation.
Research	■	Artificial Intelligence, Machine Learning, Biometrics

Miscellaneous

Achievements

2024-25	▌ Course coordinator of 2600+ first year students and 50+ faculties while teaching Python programming.
2022-23	▌ Lab coordinator of 1641 first year students while teaching Python programming.
	▌ Specialization Champion for Product Design Technology (PDT) and taught a subject Product Architecture and Delievery.
2021-23	▌ Active member of POSH Committee at Bennett University.
	▌ Active IEEE Member.

Certification

2021	▌ Completed an online course on "Machine Learning" from Coursera.
	▌ Completed an online course on "Advanced Google Analytics" from Google.
	▌ Completed an online course on "Fundamentals of Digital Marketing" from Google.
	▌ Completed an online course on "Google Analytics for Beginners" from Google.
	▌ Completed an online course on "Google Analytics for Power Users" from Google.

Ph. D. Guided

2019-Present	▌ **Mukhtar Opeyami Yusuf, Full time.** Thesis title: *Different applications of Multiview Learning.*
2022-Present	▌ **Shikha Bhalla, Part time.** Thesis title: *Submarine Object Detection.*

References

▌ **Dr. Vipul Mishra**
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