

Curriculum Vitae

Name	Prof. (Dr.) Narender Kumar		
Designation	Professor		
Department	Computer Science		
Mobile	9411775966		
Email id	narenrawal@gmail.com		
Educational Qualification	M. Tech, Ph.D.		
Teaching Experience	17 years	Research Experience	17 years
<ul style="list-style-type: none"> • 18th May 2024 – Till Date Teaching as an Professor in Computer Science Department, School of Technology Doon University Dehradun, Uttrakhand. • 18th May 2021 – 17th May 2024 Teaching as an Associate Professor in Computer Science Department, School of Physical Sciences Doon University Dehradun, Uttrakhand. • 21th March 2012 – 17th May 2021 Teaching as an Assistant Professor in Computer Science and Engineering Department, School of Engg & Technology, HNBGU Srinagar (Garhwal) Uttrakhand. • 29th September 2005 – 20th March 2012 (The period spends for completing PhD degree in IIT Roorkee from 2nd August 2008 to 25th January 2012) Teaching as a Sen. Lecturer in Computer Science and Engineering Department of Amity School of Engg. & Technology, Amity University Sector 125 Noida (UP). 			
Area of Interest			
<ol style="list-style-type: none"> 1. Digital Image Processing 2. Optimization Technology 3. Data Mining 4. Machine learning 5. Blockchain Technology 			
Achievements			
<ol style="list-style-type: none"> 1. MHRD Scholarship during Ph.D., 2. GATE Score 97.11 percentile 3. UGC-NET Qualified 			
Research Supervision (No. of Ph. D. Degree Awarded / Registered)			
(i) Ph.D. Degree Awarded: 3 Candidates			
Administrative and Academic Experience in Doon University			
<ol style="list-style-type: none"> 1. Head of Department (HOD), Department of Computer Science 2. Dean, School of Technology 3. Controller of Examinations (COE), Doon University 4. Member, Academic Council 5. Coordinator, ICT Cell 6. Coordinator, NAD Cell 7. Coordinator, <i>Earn While You Learn (EWYL) Scheme</i> 			

Experience at HNB Garhwal University (HNBGU)

8. **Member**, Board of Studies, Department of Computer Science & Engineering
9. **Member**, Admission Committee (B.Tech./M.Tech. Programmes)
10. **Programme Officer**, National Service Scheme (NSS), Birla Campus
11. **Coordinator**, E-Governance System

Key Contributions:

- Developed and implemented multiple **in-house software systems** on open-source platforms, including:
 - Online Admission Application System
 - Examination Management System
 - Online Student Feedback System
 - Result Processing System (*Tabulation charts, Grade Sheets, Degrees, Transcripts*)
 - Online Pay Slip System for staff
 - Entrance Test Application System (*UG/PG/Ph.D./M.Phil*)

Conference/Symposium/Workshop Attended

1. *“National Seminar on Emerging Dimensions in Information Technology”* Organized by Department of Computer Sc. & Engg., GJU Hisar from 10th August – 11th August, 2002.
2. *“National Seminar on Information Security & Mobile Computing “* Organized by the Department of Computer Sc & Engg, ABES Engg College Ghaziabad from 3rd February – 4th February, 2008.
3. *“International conference on Advance in Modeling, Optimization and Computing”(AMOC-2011)* organized by the Department of Mathematics, IIT Roorkee from 5 December, 2011.
4. *“International conference on Soft Computing for Problem Solving”* organized by the The Institution of Engineers (INDIA),Roorkee Local Center IIT Roorkee from 20th December, 2011.Roorkee.
5. Short Term Workshop on Medical Imaging and Image Analysis” Organized by Department of Medical Science & Technology, Indian Institute of Technology Kharagpur from 18th April - 22nd April, 2011.
6. “Orientation Programme” organizes by academic staff college H.P. University Shimla, from 2nd June- 28th June, 2014.
7. “Refresher Course on "Blockchain Technology" held from 07/12/2020 to 21/12/2020 and successfully completed with A+ Grade” organized by HRDC Jawaharlal Nehru Technological university Hyderabad

Publication

1. **Narender Kumar** and Tanuja Srivastava (2010), “Image Reconstruction from Projection under Periodicity Constraints Using Genetic Algorithm”, Communications in Computer and Information Science, Volume 94, Part 3, pp 76-83 (**Scopus Indexed**).
2. **Narender Kumar**, Tanuja Srivastava (2011), ”A PSO Based Approach to Image Reconstruction from Projections”, International Journal of Tomography & Statistics, 2011, Volume 17, pp 29-38(**Scopus Indexed**).

3. **Narender Kumar**, Tanuja Srivastava (2011), "Genetic algorithm for reconstruction under Periodicity Constraints "International Journal of Imaging and Robotics, Volume 5, pp 18-27(**Scopus Indexed**).
4. Kapil Chaudhary, **Dr. Narendra Kumar**, Dr. Vipin Kumar Saini (2014)," A New Approach to Image Denoising based on Diffusion-MLP-LMMSE Scheme" International Journal of Software and Web Sciences (IJSWS), Volume 5, Issue 9, pp 11-17.
5. Roshan Lal, **Dr. Narender Kumar** (2014), "Design and Analysis of Reliability for Component-Based Software System by using Soft Computing Approaches" International Journal of Emerging Technology and Advanced Engineering, Volume 4, Issue 6, pp 929-932.
6. Kapil Chaudhary, **Dr. Narendra Kumar** (2015),"An Neural Based Approach for Optimizing Diffusion Wavelets Coefficients (An Application to image Denoising)" International Journal of Emerging Trends & Technology in Computer Science (IJETTCS),Volume 4, Issue 3, May - June 2015 , pp. 164-168
7. **Narender Kumar**, Roopa Kumari (2016) "Simulating Annealing Approach for Discrete Tomography from Orthogonal Projections Using Boundary Points ",International Journal of Latest Technology in Engineering, Management & Applied Science, pp 123-135,
8. **Narender Kumar** (2016), "Particle Swarm Optimization Algorithm for Reconstruction of hv-Convex Binary Images" International Journal of Latest Technology in Engineering, Management & Applied Science (IJLTEMAS) Volume V, Issue XII, December 2016 | ISSN 2278-2540
9. **Narender Kumar** (2016), "A Binary Particle Swarm Optimization algorithm with Switching operator for Discrete Tomography Reconstruction" International Journal of Engineering and Management Research Page Number: 193-202
10. **Narender Kumar** , Himanshu Beniwal(2018),"Survey on Handwritten Digit Recognition using Machine Learning" International Journal of Computer Sciences and Engineering Vol-6, Special Issue-5, June 2018, pp 96-100
11. Chamkaur Singh, Dr. Neeraj Sharma, **Dr. Narender Kumar** (2018)," A Systematic Review of Software Maintenance Cost Estimation Methods" , International Journal Of Research in Electronics and Computer Engineering Vol. 6 Issue 3 pp-1504-1509
12. **Narender Kumar**, Masood Ahmad (2018), " Survey of different Trajectory Planning Techniques of Mechanical Manipulators" , International Journal Of Research in Electronics and Computer Engineering Vol. 6 Issue 3 pp 1461-1465
13. Gagandeep Chawla, Dr. Neeraj Sharma, **Dr. Narender Kumar Rawal** (2018),"Ivse: An Improved Cvss Base Score Mechanism With Environment Representative", International Journal of Emerging Technologies and Innovative Research , ISSN:2349-5162, Vol.5, Issue 12, pp .206-211.
14. **Narender Kumar**, Avinash Karhana(2019)," Data Security Framework for Data-Centers", International Journal Of Computer Sciences And Engineering 7(1):451-456 .
15. Khushbu Verma, **Narender Kumar** (2019)," Survey on Machine Learning Methods of Data mining for Medical Dataset", International Journal Of Research In Electronics And Computer Engineering, . 7 Issue 1 (January- March 2019) ISSN: 2393-9028 pp-667-674.
16. Gagandeep Chawla, Dr. Neeraj Sharma, **Dr. Narender Kumar Rawal** (2019), "Understanding the Vulnerability Scoring System through Comparative Analysis", International Journal of Emerging Technologies and Innovative Research (www.jetir.org), ISSN:2349-5162, Vol.6, Issue 6, page no.778-786, June 2019,

17. Chamkaur Singh, Dr. Neeraj Sharma, **Dr. Narender Kumar** (2019), "An Improved Model for Software Maintenance Cost Estimation", International Journal of Emerging Technologies and Innovative Research (www.jetir.org), ISSN:2349-5162, Vol.6, Issue 4, page no.315-325, April-2019.
18. Chamkaur Singh, Neeraj Sharma, **Narender Kumar** (2019), "An Efficient Approach for Software Maintenance Effort Estimation Using Particle Swarm Optimization Technique", International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-7 Issue-6C, April 2019, pp 1-6(**Scopus Indexed**).
19. Chamkaur Singh, Neeraj Sharma, **Narender Kumar** (2019), "Analysis Of Software Maintenance Cost Affecting Factors And Estimation Models" International Journal of Scientific and Technology Research, 8(9), PP-277-281(**Scopus Indexed**).
20. Masood Ahmad, **Narender Kumar**, Roopa Kumari (2019), "A Hybrid Genetic Algorithm Approach To Solve Inverse Kinematics Of A Mechanical Manipulator", International Journal of Scientific and Technology Research, 8(9), pp 1777-1782(**Scopus Indexed**).
21. Gagandeep Chawla, Neeraj Sharma, **Narender Kumar Rawal** (2019), "IVSV: An Improved CVSS Base Score Mechanism with Vulnerability Type" International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6, pp-4946-4950(**Scopus Indexed**).
22. Gagandeep Chawla, Neeraj Sharma, **Narender Kumar Rawal** (2019), "Ivsev: Improved vulnerability scoring mechanism with environment representative and vulnerability type" International Journal of Scientific and Technology Research, 8(10), pp. 1043-1047(**Scopus Indexed**).
23. Roopa Kumari, Neena Gupta, **Narender Kumar** (2019). "Image segmentation using improved genetic algorithm" International Journal of Engineering and Advanced Technology, 2019, 9(1), pp. 1784-1792(**Scopus Indexed**).
24. Ravindra Rawat, **Narender Kumar** (2019), "Survey On Data Mining Techniques For Educational Dataset", International Journal of Scientific and Technology Research, 8(10), pp. 682-684(**Scopus Indexed**).
25. Neeraj Maurya, **Narender Kumar**, Vineet Maurya(2020), "A Review On Machine Learning (Feature Selection, Classification And Clustering) Approaches Of Big Data Mining In Different Area Of Research" Journal of Critical Reviews 7(19):2610-2626.
26. Roopa Kumari, Neena Gupta, **Narender Kumar**(2020), "Cumulative Histogram based Dynamic Particle Swarm Optimization Algorithm for Image Segmentation" Indian Journal of Computer Science and Engineering, Vol. 11, No.5, 557-567(**Scopus Indexed**)..
27. Nisha Pokhriyal, **Narender Kumar**, Rohan Verma, Ashish Semwal. (2020). Survey on Crime Data Analysis Using a Different Approach of K-Means Clustering. *International Journal of Advanced Science and Technology*, 29(05), 13839 - 13854.
28. Kumari, R., Gupta, N., & **Kumar, N.** (2021). Segmentation of Covid-19 Affected X-Ray Image using K-means and DPSO Algorithm. *International Journal of Mathematical, Engineering and Management Sciences*, 6(5), 1255. (**Scopus Indexed**) (ESCI)
29. Thapliyal, S., **Kumar, N.** Numeric Crunch Algorithm: a new metaheuristic algorithm for solving global and engineering optimization problems. *Soft Computing* 27, 16611–16657 (2023). (SCIE)
30. Thapliyal, S., **Kumar, N.** ASCAEO: accelerated sine cosine algorithm hybridized with equilibrium optimizer with application in image segmentation using multilevel thresholding. *Evolving Systems* 15, 1297–1358 (2024). <https://doi.org/10.1007/s12530-023-09552-7>

31. Thapliyal, S., **Kumar, N.** Hyperbolic Sine Optimizer: a new metaheuristic algorithm for high performance computing to address computationally intensive tasks. *Cluster Comput* 27, 6703–6772 (2024). <https://doi.org/10.1007/s10586-024-04328-3>
32. Thapliyal, S., **Kumar, N.** A novel algorithm for image segmentation (IP-MH-MLT): employing an image partitioning technique with metaheuristic parameters to enhance multi-level thresholding. *Int J Syst Assur Eng Manag* 15, 4291–4347 (2024). <https://doi.org/10.1007/s13198-024-02422-8>
33. Thapliyal, S., **Kumar, N.** Fusion of heuristics and cosine similarity measures: introducing HCSTA for image segmentation via multilevel thresholding. *Int J Syst Assur Eng Manag* (2025). <https://doi.org/10.1007/s13198-024-02696-y>
34. Thapliyal, S., **Kumar, N.** Comprehensive performance metric for bio-inspired optimizers: a generation-wise population convergence approach toward global optimality. *Iran J Comput Sci* 8, 843–891 (2025). <https://doi.org/10.1007/s42044-025-00245-9>
35. Thapliyal, S., **Kumar, N.** Enhanced snow ablation optimizer using advanced quadratic and newton interpolation with taylor neighbourhood search and second-order differential perturbation strategies for high-dimensional feature selection. *Evol. Intel.* 18, 46 (2025). <https://doi.org/10.1007/s12065-025-01030-0>
36. Singh, Dheeraj Kumar, and **Narender Kumar.** "Exploring The Integration Of Universal Human Values In Arts And Science Education: Perceptions, Predictive Analysis, And Pathways To Uhv-Stem Using Clustering." *Metallurgical and Materials Engineering* (2025): 364-375.

Published in International Conference:

1. *Shiv Verma, Tanuja Srivastava and Narender Kumar (2011), "Determination of Binary Matrix using Diagonal and anti Diagonal sums", International Conference on Advance in Modelling, Optimisation and Computing (AMOC-2011) organised by the Department of Mathematics, IIT*
2. **Narender Kumar and Roopa Kumari** "Particle Swarm Optimization Technique for Discrete Tomography(2014)", *1st International Conference on Innovative Advancements in Engineering and Technology (IAET), March 7th and 8th, 2014* organized by Department of Electronics and Communication Engineering, Jaipur National University, Jaipur.
3. Kamal Rawal, Shivankur Thapliyal, Narender Kumar (2024), "Employing Kapur's Entropy to Identify Multilevel Threshold Segmentation in MRI Scans of Brain Tumors Using the Bioinspired Walrus Optimization Algorithm" Book Chapter, Springer. DOI: 10.1007/978-981-97-7831-7_24.
4. S. Thapliyal, **Narender Kumar** (2025), "Chaos Game Optimizer for COVID Segmentation", *CCIS (Scopus Indexed Conference)*.