

Dr. Geetika Dhand

Associate Professor

Department of Computer Science and Engineering

Qualifications : Ph.D ,M.Tech, B.E.
Phone : 011-45037193
Email : geetika.dhand@msit.in
Area of Interest/Specialization : Wireless Sensor Network, Computer Networks ,
Database Management System, Data Structure
Experience : 20+ years



Vidwan id : 240999

Key Publications

SCI/ESCI and Scopus indexed Journals

1. G. Dubey, H. P. Singh, R. K. Maurya, K. Sheoran and **G. Dhand**, "A hybrid forecasting system using convolutional-based extreme learning with extended elephant herd optimization for time-series prediction", *soft computing*, vol. 28, pp. 7093-7124, 2024 [**IF:4.1**](SCI).
2. S. Malik, **G. Dhand**, K. Sheoran, D. Jatain and V. Garg, "Tri-factorized Modular Hypergraph Autoencoder for Multimodal Semantic Analysis", *SN Computer Science*, vol. 5, no. 867, pp. 1-12, Sep 2024 (**Scopus**)
3. Nishtha Jatana , Mansehej Singh , Charu Gupta, **Geetika Dhand**, Shaily Malik, Pankaj Dadheechee , Nagender Aneja, Sandhya Aneja, "Differentially processed optimized collaborative rich text editor". *Multimed Tools Appl* (2024). <https://doi.org/10.1007/s11042-024-19734-3> [**IF 3**](SCI)
4. Kavita Sheoran , Arpit Bajgoti, Rishik Gupta , Nishtha Jatana, **Geetika Dhand**, C. Gupta, P. Dadheechee , U. Yahyaand, N. Aneja, "Pronunciation Scoring With Goodness of Pronunciation and Dynamic Time Warping". *IEEE Access*, vol 11, pp.15485-15495, 2023 [**IF 3.4**](SCI)
5. Gaurav Dubey, Harivas Pratap Singh ,Kavita Sheoran , **Geetika Dhand** , Pooja Malik , "Drug review sentimental analysis based on modular lexicon generation and a fusion of bidirectional threshold weighted mapping CNN-RNN". *Concurrency Computation Practice Experience*. vol. 35(3) , 2023; doi:10.1002/cpe.7512 [**IF1.83**](SCI)
6. S. Singhal, Nishtha Jatana, Kavita Sheoran, **Geetika Dhand**, Shaily Malik, R. Gupta, B. Suri, M. Niranjana Murthy, S. N. Mohanty and N. R. Pradhan, "Multi-Objective Fault-Coverage Based Regression Test Selection and Prioritization Using Enhanced ACO_TCSP", *Mathematics*, vol. 11, no. 13, pp. 1-21, Jul 2023 [**IF 2.4**](SCI)
7. A. Aggarwal, Nikhil Bhutani, . Ritvik Kapur, **Geetika Dhand** and Kavita Sheoran, "Real-time hand gesture recognition using multiple deep learning architectures", *Signal, Image and Video Processing*, Jul 2023 [**IF**

2.3](SCI)

8. R. Jain, **Geetika Dhand**, Kavita Sheoran, Shaily Malik and Nishtha Jatana, "Blockchain based Certificate Validation", *Fusion: Practice and Applications*, vol. 12, no. 2, pp. 42-53, Jun 2023(**Scopus**)
 9. S.Singhal , Nishtha Jatana , **Geetika Dhand**, Shaily Malik , Kavita Sheoran , "Empirical Evaluation of Tetrad Optimization Methods for Test Case Selection and Prioritization", *Indian Journal of Science and Technology* 16(14): 1038-1044, 2023
 10. **Geetika Dhand**, Kavita Sheoran, Parul Agarwal, and Siddhartha Sankar Biswas. "Deep enriched salp swarm optimization based bidirectional-long short-term memory model for healthcare monitoring system in big data." *Informatics in Medicine Unlocked* 32 (2022): 101010, (**Scopus**)
 11. Kavita Sheoran, **Geetika Dhand**, Mayank Dabas, Nishthavan Dahiya and Pratish Pushparaj, "Solving Connect 4 Using Optimized Minimax And Monte Carlo Tree Search", *Advances and Applications in Mathematical Sciences* Volume 21, Issue 6, Pages 3303-3313, April 2022.
 12. **Geetika Dhand** and Kavita Sheoran, "Protocols SMEER (Secure Multitier Energy Efficient Routing Protocol) and SCOR (Secure Elliptic curve based Chaotic key Galois Cryptography on Opportunistic Routing)", *Materials Today: Proceedings*, Vol.37, pp. 1324-1327,2021(**Scopus**)
 13. **Geetika Dhand** and S.S Tyagi, "SMEER: Secure Multi-tier Energy Efficient Routing Protocol for Hierarchical Wireless Sensor Networks", *Wireless Personal Communications*, 105(1), pp.17-35, 2019 [**IF 2.01**](**SCI**)
 14. **Geetika Dhand** and S.S Tyagi, "SMEER: Secure multi-tier energy efficient routing protocol for location privacy preserving hierarchical wireless sensor networks", *Journal of Advanced Research in Dynamical and Control Systems (JARDCS)*, Vol. 9. Sp– 18, pp 3030-3057, 2017(**Scopus**)
 15. **Geetika Dhand** and S.S Tyagi, "Data aggregation techniques in WSN: Survey", *Procedia Computer Science*, 92, pp.378-384, 2016 (**Scopus**)
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Other Refereed Journals

1. **Geetika Dhand** and Kavita Sheoran, "Evaluate AODV to DSR and Improving AODV", *Journal of University of Shanghai for Science and Technology*, Volume 23(1), pp 247-252 , 2021.
2. **Geetika Dhand**, "Performance Analysis of Machine learning Algorithm for chronic kidney disease", *International Journal of all Research education & Scientific methods* , Vol 9(1) pp 1988-1992,Jan2021
3. **Geetika Dhand**," Wi-Fi Based Home Automation System", *GIS Science Journal*", Vol 8(1), pp 1215-1217, 2021.
4. Parul Agarwal, **Geetika Dhand**, Ahmed J. Obaid, Kavita Sheoran "Smart Irrigation with Machine Learning Based Decision Support System", *IJMA*, vol. 10, no. 2, pp. 4003 - 4013, May 2021.

5. **Geetika Dhand** and Kavita Sheoran, "Ad-Hoc on Android using Wi-Fi Direct", *International Journal of Engineering and Advanced Technology* ,9(6),41-44, Aug20.
6. **Geetika Dhand** and S.S Tyagi, "Performance Analysis of various Routing Protocols in Mobile Ad-hoc Networks", *International Journal of Applied Engineering Research (IJAER)*, Volume 13, Number 10, pp. 73787382 ,2018.
7. **Geetika Dhand** and S.S Tyagi, "Comparison between KMean PSO and K-mean Ant lion optimization", *International Journal of Management, Technology and Engineering (IJMTE)*", Volume 8, Issue VII, pp 36-39, 2018.
8. **Geetika Dhand** and S.S Tyagi, "Survey on Data-Centric protocols of WSN", *International Journal of Application or Innovation in Engineering & Management (IJAEM)*, 2(2), pp 279-284, 2013.

Papers presented/Published in Conferences

1. Rishik Gupta, **Geetika Dhand**, and Kavita Sheoran, "Integrated smart attendance tracker using YOLOv8 and FaceNet with Spotify ANNOY," in *Proceedings of the 4th International Conference on ICT for Digital, Smart, and Sustainable Development (ICIDSSD 2024)*, **Springer**, 2024.
2. **Geetika Dhand**, Aryan Kumar , Gamak Grover , Chirag Kaushik, Ishita Yadav, Captioning images effectively: investigating bleu scores in cnn-lstm models with different training configurations on flickr8k dataset in *Proceedings of the 4th International Conference on ICT for Digital, Smart, and Sustainable Development (ICIDSSD 2024)*, **Springer**,2024
3. **Geetika Dhand**,Nishit Pahwa,Roopin Badri,Shikhar Rastogi, Niranjnamurthy M,Securing Data Using Visual Cryptography in Fourth International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT-2022) ,during 26-27 December 2022
4. Shaily Malik ,**Geetika Dhand** ,Kavita Sheoran ,Nishtha Jatana,Pragya Mittal ,Niranjnamurthy M, Algo Viz: Algorithm Visualizer in Fourth International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT-2022) ,during 26-27 December 2022
5. **Geetika Dhand**, Harshdeep singh, Mohd Anas Ansari, Harsh Kumar"Diabetes prediction system ",3rd Doctoral SymposiumonComputational Intelligence (DoSCI-2022) ,5th March 2022.
6. **Geetika Dhand**, Nishit Pahwa, Roopin Bhadri, Shikhar Rastogi "Secure health system ",3rd Doctoral Symposiumon Computational Intelligence (DoSCI-2022) ,5th March 2022.
7. **Geetika Dhand**, Tanisha Beri, Tanvi Sobti, Vidhi Angrish."Music Recommendation Using Sentiment Analysis from Facial Recognition",3rd Doctoral Symposiumon Computational Intelligence (DoSCI-2022) ,5th March 2022
8. Shaily Malik ,Kavita Sheoran and **Geetika Dhand** ,“A System for Providing Insights on a Tourist Spot based on Text Mining ”. 4th International Conference on Innovative Computing & Communication (ICICC) 2021.

9. M. Kanela ,H. Dhingra, M. Singhal and **Geetika Dhand**, “Secure and Manage Passwords with Encryption and Cloud Storage ” , 4th International Conference on Innovative Computing & Communication (ICICC) 2021
10. A.Gautam H.Jain ,A. Senger, **Geetika Dhand**, “Battle Royale: First-Person Shooter Game ”,4th International Conference on Innovative Computing & Communication (ICICC) 2021
11. **Geetika Dhand** and S.S Tyagi, “Cluster head Techniques: Survey”, in the INDIACom-2018 held at Bharati Vidyapeeth’s Institute of Computer Applications and Management (BVICAM) on 14th - 16th March 2018.
12. **Geetika Dhand** “Comparison of Different digital watermarking Techniques” in National Conference on recent Trends in information technology – Computer society of India, G.E.C, Gwalior-12th -13th April 2008.
13. **Geetika Dhand** “Effect of noise on watermarking techniques” in National seminar on information Superhighway: A road to excellence, Delhi Institute of Advanced Studies Delhi-15th March ,2008.
14. **Geetika Dhand** “Information Hiding Techniques” in 2nd National conference on computing for nation development-The Institution of Electronics and Telecommunication, (IETE, Delhi Centre), Bharati Vidyapeeth Delhi-INDIACOM2008(08-09 February,2008)
15. **Geetika Dhand** “Data hiding in Digital Images” in Indian National Science Academy-ORSI (04-06 December,2007).
16. **Geetika Dhand** and S.Anis “Regression testing” in National conference on computing for nation development-The Institution of Electronics and Telecommunication, (IETE, Delhi Centre), Bharati Vidyapeeth Delhi-INDIACOM2007(23-24 February,2007).
17. **Geetika Dhand**, “Object oriented Software Engineering” National conference on computing for nation development-The Institution of Electronics and Telecommunication, (IETE, Delhi Centre), Bharati Vidyapeeth Delhi-INDIACOM2007(23-24 February 2007).

Patent/Copyright

1. Simerneet Singh ,Gurmeet Kaur,Dr.Nishtha Jatana,Dr.Kavita Sheoran, **Dr.Geetika Dhand**, Dr.Shaily Malik,Dr.Divya, Ms.Vaani Garg, Dr.Anju Dhillon,Ms. Priyanka Dhaka, Ms.Neha Mathur and Mr.Aabhaas Sikka , published a patent titled Compact Electronic Single Braille cell display device(patent filed on 6/02/2023 ,published 10/02/23, application no 202311007354A) **granted** on 10 Aug 2023, Grant No.: 444157, granted for India
2. Ms.Somya Srivastava, Ms.Divya,Dr.Anju Dhillon, Dr.Amrita Jyoti,Dr.Bhuvneshwar Prasad Sharma ,Mr.Anmol Jain,Ms.Rashmi Mishra,Ms.Rupa Rani, **Dr.Geetika Dhand**,Mr.Kuldeep Kumar published a patent titled IOT Based Waste Management System(Patent filed on 21/01/2022 published on 04/02/2022 ,Application no.202211003443A)

3. Dr.Prabhjot Kaur , Dr.Anupama Kaushik,Ms Shivani Chauhan,Mr.Ayush Das,Dr.Kavita Sheoran,**Dr.Geetika Dhand**, published a patent titled IOT based E-Challan System for Real Time face mask
Detection for transport enforcement(patent filed on 16/05/2022 ,published 20/05/2022,application no 202211028015)
4. Dr. Gaurav Dubey,Mr. Harivans Pratap Singh,Dr. Charu Agarwal,Dr. Vikas Yadav,Dr. Kavita Sheoran,Dr. Prabhjot Kaur Sidhu,**Dr. Geetika Dhand**,Dr. Anupama Kaushik and Ms. Shaily Malik published a patent titled “IOT Based Smart Shoes for Child Health Monitoring”, Patent filed on 20/3/2021,Published on 26/03/2021,Patent No.202111011966A
5. Mr. Harivans Pratap singh,Dr.. Gaurav Dubey,Dr. Anil Kumar Dubey,Dr. Kavita Sheoran Dr. Prabhjot Kaur Sidhu,**Dr. Geetika Dhand**,Dr. Anupama Kaushik,Ms. Geetanjali Sharma published a patent titled ,“Method electronic device for monitoring user in work site” ,patent filed on 20/3/2021,published on 26/03/2021,patent No.202111011965
6. Mr. Harivans Pratap singh,Dr. Gaurav Dubey,Dr. Akash Punhani,Dr. Anupama Kaushik, Dr. Prabhjot Kaur Sidhu,**Dr. Geetika Dhand**,Dr. Kavita Sheoran ,Dr. Nishtha Jatana published a patent titled "Method and electronic device for personalizing user activity in virtual reality environment”, Patent filed on 20/3/2021,Published on 26/03/2021,Patent No.202111011967.
7. Parul Aggarwal,M Afshar,Sherin,**Geetika Dhand**, Amita Yadav, Kavita Sheoran, Sonia Rathee, Tabish Mufti, Faraz Doja, Siddhartha Sankar published a patent titled “Cartoonify Image Detection Using Machine learning”, Patent filed on 6/04/2021 ,Published on 30/04/21 ,Granted on 5/05/2021, Patent No. 2021101766
8. Mr.Simerneet Singh, Dr.Nishtha Jatana, Dr.Kavita Sheoran, **Dr. Geetika Dhand**, Mr.Vasu Goel published a patent titled , “Communication Assistance System and Method of operating the system”, Patent filed on 15/04/2021 published on 23/04/2021 Patent no.202111017478
9. Dr. Gaurav Dubey, Dr. Monika Arora, Dr. Prabhjot Kaur, **Dr. Geetika Dhand**, Dr. Kavita Sheoran, Dr. Anupama Kaushik , Pooja Kherwa , Sonika Malik , Preeti Rathee METHOD FOR TRANSLATING SIGN LANGUAGE USING CONVULUTIONAL NEURAL NETWORK (Patent filed on 15/09/2021 & Published on 15/10/2021, Application No: 202111041578, The Patent Office Journal No. 42/2021 dated 15/10/2021)

Important FDP attended.

1. 12week AICTE approved Massive Open Online Courses (MOOCs) on “Cloud Computing”(Jan-April 2024).
2. 8weeks AICTE approved Massive Open Online Courses (MOOCs) on “Design Technology and innovation” (Jan-Mar 2023).
3. 1-week NITTR FDP on Making Village Smart (13 Feb 2023-17 Feb 2023).
4. 1 month FOSS Cell, FDP on NLP training (7 Nov 2022 to 14Dec 2022).
5. 12-weeks AICTE approved Massive Open Online Courses (MOOCs) on “Computer Networks and Internet Protocol” (Jan-April2022).

6. 8-weeks AICTE approved Massive Open Online Courses (MOOCs) on “Data Base Management System” (Jan-March2022).
7. 1-week AICTE_ATAL FDP on Internet of Things (IoT)- A Practical Approach (6.12.2021-15.12.2021).
8. 2-weeks Industrial Training conducted by Brain Mentor on “Data Science” (15.11.2021-26.11.2021).
9. 1 month FOSS Cell, FDP on AI/ML Python Training (27 September 2021 to 11 November 2021)
10. 4-weeks AICTE approved Massive Open Online Courses (MOOCs) on “Python for data science” (JulAug’21).
11. 1 month MOE innovation cell and AICTE training program on Innovation Ambassador training (Advanced level) (30 June 2021 -30 July 2021)
12. 1-week AICTE Refresher Programme on "Use of ICT in Engineering Education" (24.2.2021-2.3.2021).

Books published.

- **Geetika Dhand** “Information Hiding watermarking”, Lambert Academic Publishing, ISBN 978-620-065380-2, Feb 2020.
- Niranjanamurthy, M., Kavita Sheoran., **Geetika Dhand**, & Prabhjot Kaur, Data Wrangling: Concepts, Applications and Tools. John Wiley & Sons, July 2023 ISBN: 9781119879688. (Scopus Indexed)

Books Chapter

- Rachna Jain, **Geetika Dhand**, Kavita Sheoran and Nisha Aggarwal, 2023, Importance of Data Wrangling in Industry 4.0. Data Wrangling: Concepts, Applications and Tools, pp.109-122, 2023 ISBN: 9781119879688.(scopus)

Memberships of Professional bodies:

- Life Member (LM-108180) with Indian Society for Technical Education (ISTE) .

Awards /Recognitions and Achievements

- Awarded with **Excellence in Research** for the year 2023 during Annual Day of MSIT Feb 3, 2024 in recognition for an outstanding contribution to the quality of research. • Recognized as Innovation Ambassador by MHRD
- AICTE certified Mentor for inductee teachers.
- Received Letter of Appreciation for sharing the valuable knowledge on “Introduction of Fuzzy & its applications” under aegis of the Five-day Lecture series from 18 to 22 Dec 2017 held at MSIT, New Delhi.
- Editor “Data Wrangling: Concepts, Applications and Tools”, John Wiley & Sons, July 2023 ISBN: 9781119879688.

Other Contribution

- HOD–CSE Department (September 2023 –till date)
- **Convenor** of National Scholarship Portal (NSP) (2021-till date)
- **Convenor** of Scholarship scheme (2021-2023)
- **Co-Convenor** of ICAIA 2024 (The International Conference on Artificial Intelligence and Applications)
- Sponsorship committee **Coordinator** in ICAIA 2020(The International Conference on Artificial Intelligence and Applications) organized by MSIT
- **Co Convenor** in technical fest Avensis 2020, Avensis 2018 and Avensis 2011
- Innovation activity committee **coordinator** under Innovation cell (From Aug 2019 to 2022.)
- **Co -Convenor** of Alumni Committee from Aug 2017 to July 2019.
- **Convenor** of Alumni committee from Aug 2016 to July 2017.
- Participated as **Session Chair** in the 4th International conference on Innovative computing and communication (ICICC-2021) organized by Shaheed Sukhdev College of business studies, University of Delhi, in association with National Institute of Technology Patna and University of Valladolid, Spain on 20th -21st Feb 2021
- Participated in International conference on Computational Research and Data Analytics (ICCRDA) 2020, as **Session Chair** held on 24 October 2020.
- Participated in International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS) 2020, as **Session Chair** held on 2-4 July 2020.
- Participated in the International Conference on Innovative Computing and Communication (ICICC-2020), as **Session chair** held on Feb 21-23, 2020.