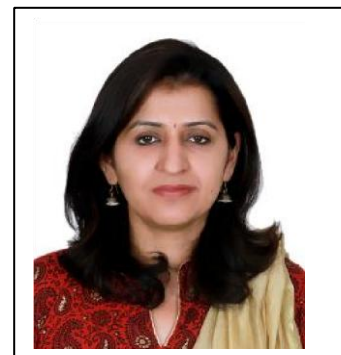# Dr. Geetika Dhand

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.**Geetika Dhand,** Meena Rao, Parul Chaudhary, Kavita Sheoran, A secure routing and malicious node detection in mobile Ad hoc network using trust value evaluation with improved XGBoost mechanism, "Journal of Network and Computer Applications",Volume 235, 2025, ISSN 1084-8045 **[IF:7.7] (SCI).**

2.H. L. Majeed, O. A. Hassen, D. A. Farhan, Y. Y. Gromov, K. Sheoran and **G. Dhand**, "Computer Vision of Smile Detection Based on Machine and Deep Learning Approach", Journal of Cybersecurity and Information Management, vol. 16, no. 1, pp. 208-230, Mar 2025**(Scopus).**

3.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).**

4. 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).**

5.Nishtha Jatana , Mansehej Singh , Charu Gupta, **Geetika Dhand**, Shaily Malik, Pankaj Dadheech , Nagender Aneja, Sandhya Aneja, "Differentially processed optimized collaborative rich text editor". *Multimed Tools Appl* (2024). https://doi.org/10.1007/s11042-024-19734-3 **(Scopus)**

6.Rathee, S., Mehta, S., Yadav, A., **Dhand, G.**, Mohanty, S.N., Garanayak, M. and Paikaray, B.K. 'Empowering immediate healthcare insights: a deep learning chatbot with modified-CNN and SA-MGO optimisation',Int. J. Embedded Systems, Vol. 17, Nos. 3/4, pp.267–284.(2024)**(Scopus)(ESCI)**

7.Kavita Sheoran , Arpit Bajgoti, Rishik Gupta , Nishtha Jatana, **Geetika Dhand**, C. Gupta, P. Dadheech , 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) .**

8.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)**

9.S. Singhal, Nishtha Jatana, Kavita Sheoran, **Geetika Dhand**, Shaily Malik, R. Gupta, B. Suri, M. Niranjanamurthy, 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) .**

10.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).**

11.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)** .

12.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 **.**

13.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)** .

14. Kavita Sheoran, **Geetika Dhand**, Mayank Dabas, Nishthavan Dahiya and Pratish Pushparaj,"Solving Connect Using Optimized Minimax And Monte Carlo Tree Search", *Advances and Applications in Mathematical Sciences* Volume 21, Issue 6, Pages 3303-3313, April 2022**.**

15.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)**

16.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)**

17,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)**

18.Geetika Dhand and S.S Tyagi, "Data aggregation techniques in WSN: Survey*", Procedia Computer Science*, 92, pp.378-384, 2016 **(Scopus)**

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 (IJAIEM), 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, Niranjanamurthy 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 ,Niranjanamurthy 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 Februrary,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 Februrary,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. 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, Application/Patent No: 202111017478, **granted on 22/4/25** ,Grant No: 565368, granted for India

2. 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

3. 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)

4. 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)

5. 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

6. 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

7. 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.

8. 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

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" (Jul-Aug'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.
- Received certificate of Appreciation in 2024 in recognition for valuable contribution as a **Guest Editor** for Proceedings on Engineering Sciences.

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.