

Resume

Name : Dr. Sonika Malik
Designation : Asst. Prof.
Qualifications : Ph.D. (NIT Kurukshetra), M. Tech (CSE),
B. Tech (CSE)
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Area of Interest/Specialization: Ontology Engineering, Semantic Web,
Knowledge Representation, Ontology Cost Estimation,
Ontology based Text Classification.

Experience : 18 years 5 months in MSIT, 8 months in SGIT, Ghaziabad,
1 Year in SMEC, Neemrana

Educational Qualification:

S. No	Degree/Diploma/Certificate or other specialized education obtained	College and/ or University	Year	Percentage	Division
1	PhD	NIT, Kurukshetra	2022	-	-
2	M.Tech	MMEC, Mullana	2010	82.3%	Ist
3	B. Tech	KUK	2004	69.5%	Ist
4	12th	CBSE	2000	69.5%	Ist
5	10th	HBSE	1998	75.6%	Ist

Key Publications

1. Sonika Malik, Sarika Jain, Geetanjali Sharma (2025), "FNN-ONTOCOM: A Hybrid Cost Estimation Approach Using Fuzzy and Neural Network for Ontology Engineering" Doi: 10.1111/COIN.70061, **SCI-E Indexed**
2. Malik, S., & Jain, S. (2024). Deep Convolutional neural network for knowledge-infused text classification. *New Generation Computing*, 42(1), 157-176., **SCI-E**.

3. Sonika Malik, Sarika Jain (2021), "F-ONTOCOM: A Fuzzified Cost Estimation Approach for Ontology Engineering", *Journal of Web Engineering*, 20(7), 2169-2198, **SCI-E Indexed**.
4. Sonika Malik, Sarika Jain (2021), "A Bayesian Network Approach to Handle Uncertainty in Web Ontology", *IJRIS, Inderscience*, 13(4), 243-250, **Scopus Indexed**.
5. Malik, S., & Jain, S. (2021). Sup_Ont: An Upper Ontology. *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)*, 16(3), 79-99, Scopus indexed. <http://doi.org/10.4018/IJWLTT.20210501>, **Scopus Indexed**.
6. Malik, S., & Rathee, P. (2024). Enhancing COVID-19 Diagnosis Accuracy and Transparency with Explainable Artificial Intelligence (XAI) Techniques. *SN Computer Science*, 5(7), 806., **Scopus Indexed**.
7. Malik, S., & Jain, S. (2022). Knowledge-infused text classification for the biomedical domain. *International Journal of Information System Modeling and Design (IJISMD)*, 13(10), 1-15 **ESCI & Scopus Indexed**.
8. Sonika Malik, Anupama Kaushik, Harshia Chopra (2022), "Saliency-based Training for Improving Interpretability in Code-Switched Language Tasks", *NeuroQuantology*, 20(15), 6147-6157, **Scopus Indexed**.
9. Anupama Kaushik, Sonika Malik, Prabhjot Kaur, Puneet Gajwal, Richa Sharma (2022), "Higgs Boson Detection by Different Machine Learning Algorithms" *NeuroQuantology*, 20(15), 6714-6725, **Scopus Indexed**.
10. Sonika Malik, Sarika Jain (2020), "Handling Uncertainty in OWL using BN", *Test Engineering and Management*, pp. 12678-12689, May-June 2020, vol 83, ISSN: 0193-4120, **Scopus Indexed**.
11. Sonika Malik, Sanju Mishra, N.K. Jain, Sarika Jain "Devising a Super Ontology" *Procedia Computer Science (Elsevier)*, vol 70, pp. 785-792, 2015, **Scopus Indexed**.
12. Mishra, S., Malik, S., Jain, N. K., & Jain, S. (2015). A realist framework for ontologies and the semantic Web. *Procedia Computer Science*, 70, 483-490, **Scopus Indexed**.
13. Sonika Malik, Harshia Chopra, Aniket Vashishtha (2022). "Capturing Racial & Gender Inequities on Social Media Platforms using Machine Learning", *EAI Endorsed Transactions on Creative Technologies*, 9(31), **UGC Care**.
14. Sonika Malik, Suyash Awasthy, Shivansh Sondhi, Rachit Singh, Convolutional Neural Networks for Prediction of Age and Gender. *International Journal of Computer Applications*. 185, 29 (Aug 2023), 40-45. DOI=10.5120/ijca2023923043, **Google Scholar**.
15. Sonika Malik, Music Recommendation based on Facial Emotion Detection. *International Journal of Computer Applications* 185, 1 (Apr 2023), 7-13. DOI=10.5120/ijca202392248, **Google Scholar**.
16. Sonika Malik, Chetan Sangwan, Himanshu, Jahanvi Chava, Muskan (2022), Smart Hand Sign Recognition using Deep Convolution Neural Network, *GIS Science Journal*, 10(6), 510-519, **Google Scholar**.
17. Sonika Malik (2022), "Movie Recommender System Using Machine Learning", *EAI Endorsed Transactions on Creative Technologies*, 9(3), **UGC Care**.

18. Malik, S. (2019). "Ontology Based Construction of Bayesian Network". International Journal of Research in Advent Technology, 7(12), 1-7, **Google Scholar**
19. Sonika Malik, Vaibhav Navani, Nagendra Singh Chauhan, Pahul Preet Singh," Study on Existing Ontological Technologies", vol5 (2016-17), pp. 18-23, ISSN: 2319-7897, **SATYAM**, MSIT.
20. Sonika Malik, Vaibhav Navani, Nagendra Singh Chauhan, Pahul Preet Singh," Design and Implementation for Ontology", vol5 (2016-17), pp. 18-23, ISSN: 2319-7897, **SATYAM**, MSIT.

Papers presented in Conferences

1. Sonika Malik et. al. "Devotee: A Block-chained Voting System with Voter Anonymity" National Conference on Recent Trends in Climate Change, Energy and Sustainability, India, 11-12 Nov, 2024.
2. Sonika Malik, Vedaang Chopra, "Integrating Machine Learning and memory Forensics for Enhancing Cybersecurity in IoT-Enabled Energy Systems", National Conference on Recent Trends in Climate Change, Energy and Sustainability, India, 11-12 Nov, 2024.
3. Sonika Malik, Preeti Rathee, "Enhancing Covid-19 Diagnosis Accuracy and Transparency with Explainable Artificial Intelligence (XAI) Techniques" International Conference on Artificial Intelligence and Applications, India, Delhi, 19-20 March, 2024.
4. Sonika Malik, Sarika Jain, "Semantic Ontology-Based Approach to Enhance Text Classification", CEUR Workshop Proceedings, vol 2786, pp. 85-98. International Semantic Intelligence Conference, Delhi, India. 25-27 Feb 2021, **Scopus Indexed**.
5. Sonika Malik, Sarika Jain "Knowledge Representation Formalisms: Description Logics", 1st International Conference on Science in Hindi, 22 August, 2017, pp: 117-118, ISSN 1549-523-X
6. Sonika Malik, Sarika Jain, "Ontology Based Context Aware Model", International Conference on Computational Intelligence in Data Science (ICCIDS 2017), 2-3 June 2017, pp: 1-6. IEEE, ISBN: 978- 1-5090-5595-1.
7. Sonika Malik, Nidhi Sharma, "Provisioning of Quality of Service in Manet's by Performance Analysis and Comparison of AODV and SAODV using free attack simulation environment, 3rd IEEE International Conference on Information Management and Engineering (ICIME 2011), 21-22 May, 2011.

Book Chapter/Books published

1. Sonika Malik et al. *Neuro-Symbolic AI: Bridging the Gap Between Neural Networks and Symbolic Reasoning*. Elsevier Publishing Company, **Accepted (Forthcoming, 2025)**.
2. Sonika Malik et. al., "Python Programming- An Industrial Approach" Scientific International Publishing House (SIPH), 2023, ISBN: 978-93-5757-658-1.
3. Sonika Malik, Preeti Rathee, "Enhancing Wireless Communication in Education through a Novel Text-to-Image Generation System", Wireless Communication Networks and Applications, IIP Series, Volume 3, May, 2024, Page no.169-179, e-ISBN: 978-93-6252-188-0, DOI/Link: <https://www.doi.org/10.58532/nbennurch77>.

4. Sonika Malik, Sarika Jain (2020), "A Review on Methods to handle Uncertainty", In: Smys, S., Iliyasa, A.M., Bestak, R., Shi, F. (Eds.), New Trends in Computational Vision and Bio Inspired Computing, Springer Nature Switzerland AG, Hardcover ISBN: 978-3-030-41861-8, eBook ISBN: 978-3-030-41862-5.

Patent/Copyright

1. Patent Entitled "**The Implementation of Deep Learning Algorithm for Image-based recognition in Internet of Things**" published on 18th November, 2022 with Application Number 202241062894.
2. Patent Entitled "**Internet of Things (IOT) With AI-Based Railway Crossing Traffic Monitoring Using Deep Learning**" published on 14th October, 2022 with Application Number 202241056842.
3. Patent Entitled "**Method for Translating Sign Language Using Convolutional Neural Networks**" published on 15th October, 2021 with Application Number 202111041578.

Awards and Recognitions

1. Organized a Short-Term Course (STC) on "Protect Yourself against Cyber Threats and Online Risks" from 5th May -9th May 2025.
2. Delivered a lecture on National Board of Accreditation Terminologies (NBA) for the 4th Semester students.
3. Organized a Session chair & TPC member in the International Conference on "Recent Advances in Artificial Intelligence, Communication and Electronic Systems (RAICE 2025)" held at Bharati Vidyapeeth's College of Engineering on 6-8 Feb 2025.
4. Received an Appreciation letter for organizing Alumni meet 2024.
5. Received Research Excellence Award on Annual Day 2023.
6. Received an Appreciation letter for showcasing insurmountable efforts and dedication for the institute through performance as Faculty Coordinator from the Director, Placement cell, MSIT in 2022.
7. Received an Appreciation letter for organizing an FDP on "Recent Advancements and challenges in IT" in 2021.
8. Received an Appreciation letter for organizing a Seminar on "Knowledge Representation with Ontology" in 2020.
9. Received an Appreciation letter for excellent services for Academic Growth in 2016.
10. Organize a Special Session "Exciting challenges for semantic Web Technologies and Applications (ECSWTA 2021 & 2022)" in International Semantic Intelligence Conference (ISIC 2021 & 2022).

Organized and Attended Events

1. Attended One week FDP on "Effective Teaching Learning using social media from 27th May 2024 to 31st May-2024.

2. Organized 2-day International Conference (ICAIA-2024) as a Team Member on 19th-20th March 2024.
3. Attended and Organized One Week FDP on “Digital Tools for Teaching and Learning Tools”, from 11th March, 2024 to 15th March, 2024.
4. Attended One Week FDP on “Internet of Things”, from 15th Jan, 2024 to 19th Jan, 2024.
5. Attended One Week FDP on “Blended Learning and Flipped Classroom” from 16th Oct, 2023 to 20th Oct, 2023.
6. Attended One day Memorial Seminar organized by ECS-JNU Student Chapter on 20th May, 2023.
7. Attended One Week FDP on “Re-Inventing Education Paradigm in India”, from 20th Feb, 2023 to 24th Feb, 2023.
8. Attended One Week FDP on “Recent Advancements in Machine Learning and Artificial Intelligence” from 6th Feb, 2023 to 10th Feb, 2023
9. Attended One Week FDP on “Entrepreneurship, Innovations, & Digital Skills in New Era of AI from 22nd July, 2022 to 26th July, 2022.
10. Attended Two Weeks FDP on “Deep Learning” from 21st Nov, 2022 to 3rd Dec, 2022 from Brain Mentors.
11. Organized an FDP on “Recent Advancements and challenges in IT” from 8th March, 2021 to 12th March, 2021.
12. Organized a Seminar on “Knowledge Representation with Ontology” on 22nd October, 2020 by Dr Archana Patel.
13. Attended Two Weeks “Industrial Training on Data Science” from 15th Nov, 2021 to 26th Nov, 2021 from Brain Mentors.
14. Attended One Week FDP on “Internet of Things (IoT)- A Practical Approach” by ATAL from 6th Dec., 2021 to 10th July, 2021.
15. Attended International Workshop on “Semantic Techniques and Technologies for Data and Knowledge Representation” from 22nd, 2021 to 26th February, 2021 organized by SemTech.
16. Attended FDP on “Semantic Intelligence: The Way Forward with Artificial Intelligence (Part II)” by ATAL from 21st July, 2021 to 25th July, 2021.
17. Attended FDP on “Semantic Intelligence: The Way Forward with Artificial Intelligence (Part I) Elementary” by ATAL from 1st July, 2021 to 5th July, 2021.
18. Attended FDP on “Use of ICT in Engineering Education (MSIT)” sponsored by MHRD from 15th March, 2021 to 20th March, 2021.
19. Attended FDP on “Artificial Intelligence and Its Applications” by NITTTR, Chandigarh 27th July, 2020 to 31st July 2020.
20. Attended FDP on “Semantic Intelligence: Applications and Perspectives, NIT Kurukshetra” from 26th Sep., 2020 to 30th Sep., 2020.
21. Attended FDP on “Latest Wireless and Computing Technologies” by NITTTR, Chandigarh from 14th April, 2020 18th April, 2020.
22. Attended FDP on “Neural Network and CNN” by NITTTR, from 9th April, 2020 to 14th April, 2020.

23. Attended FDP on “Machine Learning using Python” MSIT, from 2nd March, 2020 to 6th March, 2020.
24. Organized Cultural Fest “Genesis 2020” held on 6th-7th Jan 2020.
25. Attended FDP on “Faculty Development: Planning and Management for Institutional Excellence” NITTTR, Chandigarh from 18th Nov., 2019 to 22nd Nov., 2019.
26. Attended FDP on “Contemporary Issues and Challenges in Management, Education and Information Technology” NITTTR, Chandigarh from 5th Feb, 2019 to 9th Feb, 2019.
27. Attended FDP on “OpenSource Technologies” NITTTR, Chandigarh from 3rd Dec, 2018 to 7th Dec, 2018.
28. Attended FDP on “Data Science using R” NITTTR, Chandigarh from 26th Nov, 2018 to 30th Nov, 2018.
29. Attended FDP on “Wireless Networks through ICT NITTTR”, Chandigarh from 22nd May, 2017 to 26th May, 2017
30. Attended FDP on “Research Methodology & Data Analytics” MSI from 16th Dec, 2016 to 23rd Dec, 2016
31. Attended FDP on “MATLAB Programming” NITTTR, Chandigarh from 1st Feb, 2016 to 5th Feb, 2016
32. Attended FDP on “7 QC Tools” MSIT from 10th Nov, 2014 to 10th Nov, 2014
33. Attended FDP on “Android Applications development” MSIT from 11th Sep, 2012 to 12th Sep, 2012.
34. Attended FDP on “Intelligent Tools for Various Engineering Applications” MSIT from 12th April, 2012 to 13th April, 2012
35. Attended FDP on “Human Values & Ethics” MSI from 4th Feb, 2012 to 4th Feb, 2012
36. Attended FDP on “Data Mining Workshop using SPSS Clementine” AIT, Delhi from 27th Feb, 2009 to 27th Feb, 2009.
37. Attended Seminar on “Advances in Speech Technology A way towards Intelligent Human Computer Interaction” MSIT from 27th Nov., 2017 to 28th Nov., 2017.
38. Attended Conference on “Paradigm Shift from Developing to Developed India through Digitization” MSI from 28th July, 2017 to 29th July, 2017.
39. Attended workshop on “Implementation of Sensor Networks using NS-2” MSIT from 25th April, 2014 to 26th April, 2014.
40. Attended workshop on “Research Methods & Data Analysis Using SPSS” MSIT 12th April, 2012 to 13th April, 2012.
41. Attended Seminar on “MATLAB and Simulink for Engineering Education” from 18th August, 2011 to 18th August, 2011,
42. Attended Seminar on “Information Super-Highway- A Road to Excellence” DIAS, Rohini on 15th March, 2008.

Roles and Responsibilities

1. Served as Project Coordinator.
2. Served as Summer Training In-charge.

3. Worked as a Team member of Unnat Bharat Abhiyaan.
4. Worked as a Team Member of AICTE (Ek Bharat Shresth Bharat).
5. Worked as Team Member in GGSIPU Schemes Committee.
6. Worked as a Core Team member in Avensis.
7. Organized FDPs and Seminars in the Department.
8. Worked as an Organizer in Genesis 2020.
9. Worked as Team Member in International Conference ICAIA 2024.
10. Currently Working as an ISO In-charge.
11. Currently Working as a Team Member in MSIT Alumni Committee.
12. Currently Working as a Team Member in MSIT NAAC Team.
13. Currently Working as a Placement Faculty Coordinator.

Certification:

I certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience.

Dr. Sonika Malik
Asst. Prof., Dept. of IT

Name of the Faculty