Profile

Name	: Dr. Nishtha Jatana
Date of Birth	: 09-10-1987
Designation	: Associate Professor
Qualifications	: Ph. D (USICT, GGSIPU), M. Tech (DTU, Delhi), B. Tech (MSIT, GGSIPU), GATE 2010 qualified
Phone	9999453856
Email	: nishthajatana@msit.in
Area of Interest/Specialization	: Software Testing, Soft Computing techniques, Assistive Technologies

Work Experience

14 years (September 2009 to August 2023) as Assistant Professor at Maharaja Surajmal Institute of Technology and Associate Professor at Maharaja Surajmal Institute of Technology w.e.f 1st September 2023.

Journal Publications

1. Jatana, N., Singh, M., Gupta, C., Dhand, G., Malik, S., Dadheech, P., Aneja, N. and Aneja, S., 2024. Differentially processed optimized collaborative rich text editor. *Multimedia Tools and Applications*, pp.1-16. **(SCIE Indexed)**

2. Gupta, A., Mishra, N., Jatana, N., Malik, S., Gepreel, K. A., Asmat, F., & Mohanty, S. N. (2024). Predicting stroke risk: An effective stroke prediction model based on neural networks. *Journal of Neurorestoratology*, 100156. **(ESCI Indexed)**

3. Gupta, A., Khan, T., Mishra, N., Jatana, N., Malik, S., & Garg, V. (2024). Proposing and Optimizing COVID-19 Predictions: A Comprehensive Ensemble Approach for Time Series Forecasting in India. SN Computer Science, 5(7), 828. **(Scopus Indexed)**

4. Ralhan, C., Malik, N., Agrawal, P., Gupta, C., jatana, N., Jatain, D., & Sharma, G. (2024). Adaptive Prefix Filtering for Accurate Code Clone Detection in Conjunction with Meta-learning. *SN Computer Science*, *5*(6), 789. **(Scopus Indexed)**

5. S. Singh, N. Jatana, S. Sehgal, R. Anand, B. Arunkumar and J. V. N. Ramesh, "Making Digital Payments Accessible Beyond Sight: A Usability Study of UPI-Based Smartphone Applications," in IEEE Access, vol. 12, pp. 6830-6841, 2024, doi: 10.1109/ACCESS.2023.3348840. **(SCIE Indexed)**

6. Jatana, N., Wadhwa, D., Singh, N.K., Hassen, O.A., Gupta, C., Darwish, S.M., Mohammed, S.M., Farhan, D.A. and Abdulhussein, A.A., 2023. Future Frame Prediction using Generative Adversarial Networks. Karbala International Journal of Modern Science, 10(1), p.2. **(Scopus Indexed)**

7. Ralhan, C., Malik, N., Agrawal, P., Gupta, C., jatana, N., Jatain, D., & Sharma, G. (2024). Adaptive Prefix Filtering for Accurate Code Clone Detection in Conjunction with Meta-learning. *SN Computer Science*, *5*(6), 789. **(Scopus Indexed)**

8. Gupta, A., Khan, T., Mishra, N., Jatana, N., Malik, S., & Garg, V. (2024). Proposing and Optimizing COVID-19 Predictions: A Comprehensive Ensemble Approach for Time Series Forecasting in India. *SN Computer Science*, *5*(7), 828. **(Scopus Indexed)**

9. Mathur, N., Sinha, S., Tyagi, R. K., & Jatana, N. (2024). Study of Access Control Techniques on the Blockchain-enabled Secure Data Sharing Scheme in Edge Computing. *Recent Advances in Computer Science and Communications (Formerly: Recent Patents on Computer Science)*, *17*(8), 1-13. **(Scopus Indexed)**

10. Singh, S., Jatana, N., & Goel, V. (2023). HELF (Haptic Encoded Language Framework): a digital script for deaf- blind and visually impaired. *Universal access in the information society*, *22*(1), 121-131. **(SCIE Indexed)**

11. Singhal, S., Jatana, N., Dhand, G., Malik, S., & Sheoran, K. (2023). Empirical Evaluation of Tetrad Optimization Methods for Test Case Selection and Prioritization. *Indian J. Sci. Technol*, *16*, 1038-1044. **(Web of Science & UGC Indexed)**

12. Singhal, S., Jatana, N., Subahi, A. F., Gupta, C., Khalaf, O. I., & Alotaibi, Y. (2023). Fault Coverage-Based Test Case Prioritization and Selection Using African Buffalo Optimization. *Computers, Materials & Continua*, *74*(3). **(SCIE Indexed)**

13. Singhal, S., Jatana, N., Sheoran, K., Dhand, G., Malik, S., Gupta, R., Suri, B., Niranjanamurthy, M., Mohanty, S.N.,and Pradhan, N. (2023). Multi-Objective Fault-Coverage Based Regression Test Selection and Prioritization UsingEnhanced ACO_TCSP. *Mathematics*, *11*(13), 2983. **(SCIE Indexed)**

14. Sheoran, K., Bajgoti, A., Gupta, R., Jatana, N., Dhand, G., Gupta, C., Dadheech P., Yahya U. & Aneja, N. (2023).Pronunciation Scoring With Goodness of Pronunciation and Dynamic Time Warping. *IEEE Access*, *11*, 15485- 15495. **(SCIE Indexed)**

15. Singhal, S., Jatana, N., Suri, B., Misra, S., & Fernandez-Sanz, L. (2021). Systematic literature review on test caseselection and prioritization: A tertiary study. *Applied Sciences*, *11*(24), 12121. **(SCIE Indexed)**

16. Jatana, N., & Suri, B. (2020). Particle swarm and genetic algorithm applied to mutation testing for test data generation: a comparative evaluation. *Journal of King Saud University-Computer and Information Sciences*, *32*(4),514-521. **(SCIE Indexed)**

17. Jatana, N., & Suri, B. (2020). An improved crow search algorithm for test data generation using search-based mutation testing. *Neural Processing Letters*, *52*(1), 767-784. **(SCIE Indexed)**

18. Nishtha, J., Bharti, S., & Shweta, R. (2017). Systematic literature review on search based mutation testing. *e- Informatica Software Engineering Journal*, *11*(1). **(ESCI, Scopus and UGC-Care Indexed)**

19. Singhal, S., Jatana, N., Dhand, G., Malik, S., & Sheoran, K. (2023). Empirical Evaluation of Tetrad Optimization Methods for Test Case Selection and Prioritization. *Indian Journal of Science and Technology*, *16*(14), 1038-1044.**(UGC-Care Indexed)**

20. Jatana, N., & Suri, B. (2021). An Empirical Comparison of t-GSC and ACO_TCSP Applied to Time Bound Test Selection. *Recent Advances in Computer Science and Communications (Formerly: Recent Patents on ComputerScience)*, *14*(2), 555-563. (**Scopus and UGC-Care Indexed)**

21. Jatana, N., & Suri, B. (2021). An empirical comparison of t-GSC and ACO_TCSP applied to time boundtest selection. *Recent Advances in Computer Science and Communications (Formerly: Recent Patentson Computer Science)*, *14*(2), 555-563. (**Scopus and UGC-Care Indexed)**

22. Jain R., Dhand G., Sheoran K., Malik S., Jatana N. Blockchain based Certificate Validation, Fusion: Practice and Applications (FPA) Vol. 12, No. 02. PP. 42-53, 2023 **(Scopus and UGC-Care Indexed)**

23. Mathur, Neha & Sinha, S. & Tyagi, Rajesh & Jatana, Nishtha. (2023). Analysis of Secure Data Sharing TechniquesUsing Blockchain. Fusion: Practice and Applications. 10. 42-54. 10.54216/FPA.100204. **(Scopus and UGC-Care Indexed)**

24. Wadhwa, D., Singh, N. K., & Jatana, N. (2021). Evaluation of Bernstein Polynomial as a Machine Learning technique. In *IOP Conference Series: Materials Science and Engineering* (Vol. 1022, No. 1, p. 012076). IOP Publishing. (**Scopus and UGC-Care Indexed)**

25. Jatana, N., Puri, S., Ahuja, M., Kathuria, I., & Gosain, D. (2012). A survey and comparison of relational and non- relational database. *International Journal of Engineering Research & Technology*, *1*(6), 1-5. **(Google Scholar Indexed)**

26. Puri, S., Gosain, D., Ahuja, M., Kathuria, I., & Jatana, N. (2013). Comparison and analysis of spam detection algorithms. *International Journal of Application or Innovation in Engineering and Management*, *2*(4), 255-261. **(Google Scholar Indexed)**

27. Nishtha Jatana, Drishti Pandita, (2023) Behavioural Finance: Understanding How Biases Impact Decisions, SATYAM, Vol. 10.

Conference Publications

1. Jatain, D., Singh, S., Jatana, N., Sharma, G., Garg, V., & Niranjanamurthy, M. (2024, April). A Real-Time Camera-based Motion Sensing Game Tool for Cervical Rehabilitation. In *2024 International Conference on Knowledge Engineering and Communication Systems (ICKECS)* (Vol. 1, pp. 1-8). IEEE.

2. Ahlawat, R., Adlakha, S., Malik, M., & Jatana, N. (2023, November). Action and Gesture Recognition using Deep Learning and Computer Vision for Deaf and Dumb People. In *Proceedings of the 5th International Conference on Information Management & Machine Intelligence* (pp. 1-8).

3. Jatana, N., Suri, B., & Kumar, P. (2019). Mutation testing-based test suite reduction inspired from Warshall's algorithm. In *Software Engineering* (pp. 357-364). Springer, Singapore.

4. Singhal, S., Sharma, A., Garg, S., & Jatana, N. (2015, September). Vulnerabilities of CAPTCHA used by IRCTC and an alternative approach of Split Motion Text (SMT) CAPTCHA. *In 2015 4th International Conference on Reliability, Infocom Technologies and Optimization (ICRITO) (Trends and Future Directions)* (pp. 1-6). IEEE.

5. Jatana, N., & Sharma, K. (2014, March). Bayesian spam classification: Time efficient radix encoded fragmented database approach. *In 2014 International Conference on Computing for Sustainable Global Development (INDIACom)* (pp. 939-942). IEEE.

6. Jatana, N., Suri, B., & Kumar, P. (2019). Mutation testing-based test suite reduction inspired from Warshall's algorithm. In *Software Engineering* (pp. 357-364). Springer, Singapore.

7. Jatana, N., Suri, B., Kumar, P., & Wadhwa, B. (2016, March). Test suite reduction by mutation testing mapped to set cover problem. In *Proceedings of the Second International Conference on Information and Communication Technology for Competitive Strategies* (pp. 1-6).

8. Jatana, N., Suri, B., Misra, S., Kumar, P., & Choudhury, A. R. (2016, July). Particle swarm based evolution and generation of test data using mutation testing. In *International Conference on Computational Science and its Applications* (pp. 585-594). Springer, Cham.

9. Jatana, N., Rani, S., & Suri, B. (2015, September). State of art in the field of search-based mutation testing. In *2015 4th International Conference on Reliability, Infocom Technologies and Optimization (ICRITO)(Trends and Future Directions)* (pp. 1-6). IEEE.

Awards and Recognitions

1. Letter of Appreciation was awarded from the Institution (MSIT) for the year 2013-14 and for the year 2015-16.
2. Best Paper Award received in ICRITO 2015
3. Research Excellence Award received in 2023 at MSIT.
4. Best paper Award received in ICAIA 2024.

Patent Published

Patent Granted

1. Compact Electronic Single Braille cell display device (P. no. 202311007354A)

Patent/Copyright Published

1. Communication Assistance system and method of operating the same (P. no. 202111017478)

2. Method and Electronic Device for personalizing user activity in virtual reality environment (P. no. 202111011967)

3. IOT Based Speaker Reorganization system (P. no. 202211003534A)

Sponsored Project/Consultancy: None

Book published

1. Spam Classification: Radix Encoded Fragmented Database Approach, Scholars Press, 2015

Book Chapter published

1. Application of Nature Inspired Algorithms to Test Data Generation/Selection/Minimization using Mutation Testing In Artificial Intelligence and Natural Algorithms 2022, 213-249

Ph.D Supervised : 1 (Ongoing)

Other Achievements/Contributions:

- GATE 2010 Qualified.
- Convener of IOSD MSIT
- Convener of TECHSOC (Technical Society of MSIT).
- Convener of EBSB MSIT.
- Convener of AMC-Computers MSIT from 2019 to present.
- Dy. MR ISO Core Team (2010-2018), Core team Member of NBA and NAAC Committee.
- Initiator of events like Mock interviews, Alumni meet, Fresher's and Farewell party and even initiated the first ever collaboration of MSIT with a foreign institute (Wentworth University).
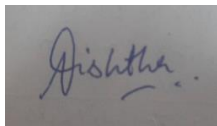
References

Prof. Kapil Sharma (DelhiTechnological University) ; email: kapil@ieee.org

Prof. Bharti Suri (USICT, GGSIPU); email: bhartisuri@ipu.ac.in

Declaration:

I hereby declare that the above provided information is true and authentic.

Date & Place: 1st September 2023

Dr. Nishtha Jatana
Assoc. Prof. CSE Department MSIT