

Name: :Dr. Sonal Amit Jain

Designation: Professor

PG Department of Computer Science and
Technology
Sardar Patel University,
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Qualifications: Ph.D., M.Sc (Computer Science) ,
UGC NET Computer Science

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Courses taught: Mobile Application Development, Artificial Intelligence, Machine Learning, Intelligent Machines, Academic Writing, Web Data Management SAP: Basic Module, Computation Data Analysis, Computing using Python, Operating Systems & Linux, Computer Architecture & Organization, Computer based Optimization models, Computer Fundamentals and C, Data Base Management Systems (DBMS), Management Information Systems, Data and File Structures, Internet and HTML, Scientific & Statistical Computing, Advanced Database Management Systems, E-commerce and ASP, Basic Microcomputer Applications, Design & Analysis of Algorithms

Vidwan ID: <https://spuvvn.irins.org/profile/281493>

Expertise: Artificial Intelligence, Machine Learning, Technology for Education

Summary of Scholastic and Research Activities:

Dr. Sonal Jain is a Professor with over 24 years of academic experience. Before joining the PG Department of Computer Science and Information Technology, Sardar Patel University, Vallabh Vidhyanagar, she was associated with GLS Institute of Computer Technology, Ahmedabad for 12 years and then served as Head, Department of Computer Science and Engineering, JK Lakshmipat University, Jaipur for 10 years. She has been trained for PBL Pedagogy at JK Lakshmipat University, for Project Based Learning Pedagogy by Master Class conducted by Professor from Olin College of Engineering, USA. She has co-developed Courses like Computational Data Analysis, Intelligent Automation, and Business and Intelligent Machines. Dr. Jain has co-authored books including Personal Computer Software (Wiley India), Simplifying C (Dreamtech Publications), and six textbooks for the Gujarat State Education Board. Dr. Jain has several publications to her credit and she has presented research papers at National and International conferences. She is currently guiding 2 PhD Scholars and four students have been awarded doctoral degree under her guidance. She is the recipient of a Grant for a project titled Early and Automated Diagnosis of Dysgraphia using Deep Neural Network by Science for Equity Empowerment and Development Division of the Department of

Science and Technology, GoI, India as Co-Principal Investigator. She is a recipient of the Australian Innovation Patent grant, 2 patents by Federal Republic of Germany, 2 Indian patents, Sardar Patel Research award, the Young Scientist Award for Initiatives Discoveries and Developments in the discipline of Information Retrieval by Venus International Foundation, Chennai, and the Vaigyanik Drashtikon Award at the 4th Rajasthan Science Congress. She has also developed a MOOC on Android Application Development. She is a Committee Member of IACSIT Singapore and a reviewer of various conferences and journals of international repute. She has been visiting faculty at the University of J.Seyle, Slovenia, Hungary, and also visited Amsterdam University of Applied Sciences under the faculty exchange program at JKLU. Her area of interest for Research, Training, and Consultancy includes Artificial Intelligence, Machine Learning, and Technology for Education and Healthcare.

Research interest areas:

Deep Learning, Computer Vision, Natural Language Processing, Information Retrieval, Artificial Intelligence

Patent Granted

- Wildlife intrusion detection system empowered with Artificial intelligence, Application No: 2021100064, Australian Innovation Patent Grant, Filing Date: January 1, 2021, Grant date: March 31, 2021
- Solar Mobile Battery, Patent No. 114847, Design No. 360592-001, Date of Grant: March 14, 2022
- A System for Determining the Nature of Noise in Microarray Images, Federal Republic of Germany, Federal Republic of Germany, Publication No. and Date: De202022106319u1, 2022-12-07
- A Robust Security Management System for the Internet of Things (IoT), Federal Republic of Germany, Publication No. and Date: De202022106318u1, 2022-12-12

Patent Application Published:

- Sonal Amit Jain, Dr.Usha B A, Sathish Kumar T, Anupama H S, Dr.Kavitha K S, Dr. Anjan Kumar K N, Dr.Manjula V, Veeranna Kotagi, Students Posture and Gesture Detection System using Artificial Intelligence and Methods Thereof, Application No.202011046511 A, Journal No: 45/2020, Filing Date: October 25, 2020, Publication Date : 06/11/2020, India.
- Dr Raghavi K Bhujang, Dr Sonal Jain, Dr. Sumati Ramakrishna Gowda, Dr. D.M Mahesha, Dr.Poornima Y, Dr Natesh M, Dr. Loshma Guniseti, Dr. Sindhu Menon, Dr Piyush Kumar Pareek, Interactive Multimedia Performance Assessment System,

Application No.202141008086 A, Filing Date: 25/02/2021, Publication Date: 05/03/2021

Patent Application Filled:

- Piyush Kumar Pareek, Joe Lopez, Sunil P Ujagare, Sonal Amit Jain, Digital Smart Board, Application Number: 360575-001, Filed Date: 14/03/2022

Special Issue: Guest Editor Role

Sunil Pathak, Sonal Jain, Samarjeet Borah, Special Issue on Scope and Future of Machine Learning, Artificial Intelligence, and Big Data Analytics in Healthcare, International Journal of Big Data and Analytics in Healthcare (IJBD AH) 6(1) (<https://www.igi-global.com/ijbdah>), <https://www.igi-global.com/journals/open-access/table-of-contents/international-journal-big-data-analytics/126509>, 2021

Projects

Early and Automated Diagnosis of Dysgraphia using Deep Neural Network by Science for Equity Empowerment and Development Division of the Department of Science and Technology, GoI. Total Cost: 18,00,000, File Number: SEED/TIDE/2019/705 Role: Co-PI, Date of Commencement: 25-02-2021, Date of Completion: 25-02-2023

Published Papers in Journals (International):

1. Sharma, P., Agarwal, B., Yadav, G.S., Jain S. Vision transformer-based model for early detection of dysgraphia among school students. *Microsystems Technologies* (2024). <https://doi.org/10.1007/s00542-024-05741-9>, **SCIE, Scopus**
2. Bhandari, S., Pathak, S., Jain, S.A. et al. (2024), Improved diabetic retinopathy severity classification using squeeze-and-excitation and sparse lightweight multi-level attention u-net with transfer learning from xception. *Acta Diabetol* (2024). <https://doi.org/10.1007/s00592-024-02341-x>, July 2024, **SCIE, Scopus**, Electronic ISSN: 1432-5233
3. Agarwal, B., Jain, S., Beladiya, K. et al. , (2023), Early and Automated Diagnosis of Dysgraphia Using Machine Learning Approach. *SN COMPUT. SCI.* 4, 523. <https://doi.org/10.1007/s42979-023-01884-0>, ISSN: 2661-8907, July 2023, **Scopus**
4. Bhandari, S., Pathak, S. & Jain, S.A. (2022), A Literature Review of Early-Stage Diabetic Retinopathy Detection Using Deep Learning and Evolutionary Computing Techniques. *Arch Computat Methods Eng* (March 2022), Vol. 30, pp.

- 799–810. September 2022, <https://doi.org/10.1007/s11831-022-09816-6> **(SCIE), Scopus, ISSN: 1886-1784,**
5. Jadwal, P.K., Jain, S., Pathak, S. et al., (2022), Improved resampling algorithm through a modified oversampling approach based on spectral clustering and SMOTE. *Microsystems Technologies*, April 2022, <https://doi.org/10.1007/s00542-022-05287-8>, **(SCIE, Scopus)**
 6. Rijwani, P., & **Jain, S.** (2022), Software Effort Estimation Development from Neural Networks to Deep Learning Approaches, *Journal of Cases on Information Technology (JCIT)* 24(4), March, 2022, DOI: 10.4018/JCIT.296715, IGI Global Publishers, ISSN: 1548-7717, EISSN: 1548-7725, **ESCI, Scopus**
 7. Jadwal, P.K., Pathak, S. & Jain, S. Analysis of clustering algorithms for credit risk evaluation using multiple correspondence analysis. *Microsystems Technologies* (May 2022). <https://doi.org/10.1007/s00542-022-05310-y>, **(SCIE, Scopus)**
 8. Jadwal, P. K., Jain, S., & Agarwal, B. (2021). Clustering-based hybrid resampling techniques for social lending data. *International Journal of Intelligent Systems Technologies and Applications*, Special Issue on: Recent Advancements in Artificial Intelligence Systems and Their Applications, 20(3), 183-198. ISSN online, 1740-8873, ISSN print:1740-8865, <https://doi.org/10.1504/ijista.2021.120495> **(Scopus)**
 9. Dubey, A. K., Gupta, U., **Jain, S.** (2021). Medical Data Clustering and Classification Using TLBO and Machine Learning Algorithms. *CMC-Computers, Materials & Continua*, Special Issue: Role of Machine Learning and Evolutionary Algorithms for Cancer Detection and Prediction, 70(3), pp.4523-4543, July 2021, ISSN: 1546-2218 (Print), ISSN: 1546-2226 (Online), doi:10.32604/cmc.2022.021148 **(SCI, Scopus)**
 10. Jadwal, P. K., Jain, S., & Agarwal, B. (2020). Spectral Clustering and Cost-Sensitive Deep Neural Network-Based Undersampling Approach for P2P Lending Data. *International Journal of Information Technology and Web Engineering (IJITWE)*, 15(4), 37-52. doi:10.4018/IJITWE.2020100103 **(Scopus, ESCI)**
 11. Jadwal, P., Jain, S., Agarwal B., (2020), Financial credit risk evaluation model using machine learning based approach , Special Issue on: Role of Artificial intelligence in entrepreneurship and business management, *World Review of Entrepreneurship, Management and Sustainable Development*, ISSN: 1746-0581, 16 (6), Inderscience Publishers, doi: 10.1504/WREMSD.2020.111383 **(Scopus Indexed)**

12. Gupta, Umesh, Jain, Sonal, Kumawat, Dharmendra and Sharma, Roopali, Clustering of Water Reservoirs based on Water Chemical Analysis, International Journal of Research in Advent Technology (IJRAT), 7(6S), (2019): 274-277, ISSN: 2321-963 doi: 10.32622/ijrat.76S201954
13. Pathak, S., & Jain, S.,(2019), Comparative study of clustering algorithms for MANETs, Journal of Statistics and Management Systems, Taylor and Francis Publishers, 22(4), 653-664 (**ESCI, Scopus**), ISSN: 0972-0510, doi: 10.1080/09720510.2019.1609723
14. Pathak, S., & Jain, S.,(2019) A Priority Based - Weighted Clustering Algorithm for Mobile Ad Hoc Network, International Journal of Communication Networks and Distributed Systems, InderScience Publishers, 22(3), pp. 313 - 328, ISSN online: 1754-3924, ISSN print: 1754-3916, doi: 10.1504/IJCND.2019.098872, (**Scopus, ESCI**)
15. Rijwani, P., & **Jain, S.** (2018), Level of Confidence in Software Effort Estimation by an Intelligent Fuzzy – Neuro - Genetic Approach, International Journal of Advanced Computer Science and Applications (IJACSA), 9(9), 2018. ISSN: 2156-5570, doi: 10.14569/IJACSA.2018.090972 (**Scopus Indexed**)
16. Dubey, A. K., Gupta, U., & **Jain, S.** (2018), Comparative Study of K-means and Fuzzy C-means Algorithms on The Breast Cancer Data, International Journal on Advanced Science, Engineering and Information Technology, 8(1), pages: 18-29, ISSN: 2088-5334, doi:10.18517/ijaseit.8.1.3490 (**Scopus**)
17. Jain, A., Jain Shubham., **Sonal Jain** (2017), Customer Engagement through Social Media: Learnings from Hospitality Industry in India, International Journal of the Computer, the Internet and Management, 25(2), (May-August, 2017) pp. 41-48, ISSN: 0858-7027
18. Pathak, S., & **Jain, S.** (2017). An optimized stable clustering algorithm for mobile ad hoc networks. EURASIP Journal on Wireless Communications and Networking, 2017(1), pp. 51-59, ISSN: 1687-1499, doi: 10.1186/s13638-017-0832-4 (**Scopus, SCIE**)
19. Dubey, A. K., Gupta, U., & **Jain, S.** (2016). Epidemiology of lung cancer and approaches for its prediction: a systematic review and analysis. Chinese Journal of Cancer, 35, pp. 71-78, ISSN: 2523-3548, doi:10.1186/s40880-016-0135-x, (**Scopus, SCIE**)
20. Gupta, U., & **Jain, S.** (2016), Impact of School Education on Performance in Higher Education (A Study on Engineering Students), International Journal of

Technical Research & Science, ISSN NO : 2454-2024(Online), 1(3), 31-35

21. Dubey, A. K., Gupta, U., & **Jain, S.** (2016), Analysis of k-means clustering approach on the breast cancer Wisconsin dataset, International Journal of Computer Assisted Radiology and Surgery, doi: 10.1007/s11548-016-1437-9, Print ISSN 1861-6410, Online ISSN 1861-6429, 11(11), pp 2033–2047, Springer Berlin Heidelberg (**Scopus, SCIE**)
22. **Jain S.**, Singhal M., & Shah A., (2016), Exploring the Usage of Existing Plagiarism Tools for Automated Student Assessment for Java Program, International Journal of Information and Education Technology, 6(3), pp. 219-223, ISSN: 2010-3689., <http://www.ijiet.org/vol6/688-TD043.pdf> (**Scopus**)
23. Dodiya, T., **Jain, S.** (2016), Speech Recognition System for Medical Domain, (IJCSIT) International Journal of Computer Science and Information Technologies, 7 (1), 185-189, ISSN 0975-9646, <https://ijcsit.com/docs/Volume%207/vol7issue1/ijcsit2016070141.pdf>
24. Pathak, S., & **Jain, S.**,(2015) A novel weight-based clustering algorithm for routing in MANET, Wireless Networks: The Journal of Mobile Communication, Computation, and Information, Springer Science, 22(8), pp. 2695-2704, ISSN 1022-0038, doi: doi: 10.1007/s11276-015-1124-8 (**SCI, Scopus**)
25. P. Khanna, **S. Jain** (2015), Cloud Broker Definition Differential: Gartner Versus NIST and New Models, International Journal of Engineering Technology Science and Research, ISSN 2394 – 3386, Volume 2, pp. 127-132, September
26. Dubey, A. K., Gupta, U., & **Jain, S.** (2015), Breast Cancer Statistics and Prediction Methodology: A Systematic Review and Analysis, Asian Pacific Journal of Cancer Prevention 16 (10), pp. 4237-4245, ISSN: 1513-7368, doi: 10.7314/apjcp.2015.16.10.4237, (**Scopus, SCIE**)
27. P. Khanna, **S. Jain** and B. Babu (2015), Distributed cloud brokerage: solution to real-world service provisioning problems, Asian Research Publishing Network Journal of Engineering and Applied Sciences. 10(5), pp. 2011-2016, ISSN: 1819-6608, http://www.arpnjournals.com/jeas/research_papers/rp_2015/jeas_0315_1706.pdf (**Scopus**)
28. Rijwani, P. and **Jain, S.**, Santani D., (2014) Software Effort Estimation: A Comparison Based Perspective, International Journal of Application or Innovation in Engineering & Management (IJAIEM), 3 (12), pp. 18-29, December 2014, ISSN: 2319 – 4847,

2014-12-09-18.pdf (**Scopus**)

29. Pathak, S., & **Jain, S.** (2014), A Status based cluster head election algorithms for mobile Ad Hoc Networks, Elixir Network Engineering, 77 (2014), pp. 29093-29097, ISSN:2229-712X,
[https://www.elixirpublishers.com/articles/1418015067_77%20\(2014\)%2029093-29097.pdf](https://www.elixirpublishers.com/articles/1418015067_77%20(2014)%2029093-29097.pdf)
30. P. Khanna, **S. Jain** (2014), Live Performance of Cloud Brokers in a Federation, International Journal of Science and Research, 3(12), pp. 1755-1760, December 2014, ISSN (Online): 2319-7064
31. Rijwani, P. and Jain, S., Santani D. (2014), Comparison and Analysis of Various Artificial Neural Networks for Software Effort Estimation, International Journal of Advanced Research in Computer Science and Software Engineering, 4(12), ISSN: 2277-6451, pp. 699- 705, December 2014
32. Pathak, S., & **Jain, S.** (2013). A Survey: On Unicast Routing Protocols for Mobile Ad Hoc Network, International Journal of Emerging Technology & Advanced Engineering, 3(1), pp. 204-210, ISSN: 2250-2459,
https://www.ijetae.com/files/Volume3Issue1/IJETAE_0113_31.pdf, (**Scopus**)
33. **Jain, S.**, Pareek, J. (2013). Automatic Extraction of Prerequisites and Learning Outcome from Learning Material. International Journal of Metadata, Semantics and Ontologies 8.2, Special Issue on New Challenges in Resource Discovery, 8(2) ,pp. 145-154, ISSN: 1744-2621 Inderscience Publishers, doi: 10.1504/IJMSO.2013.056601.(**Scopus Indexed**)
34. **Jain, S.**, Pareek, J. (2012), Automatic Identification of Learning Object Type, International Journal of Computer Applications, 42(7), pp. 7-10, March 2012. Published by Foundation of Computer Science, New York, USA, ISSN: 0975 – 8887, doi: 10.5120/5703-7687
35. Madan Mohan Nagar, Sunil Pathak, **Sonal Jain**, (2012), Design of Energy Efficient MAC Protocol with Increased Throughput in MANET's, International Journal of Engineering and Innovative Technology (IJEIT), 2(5), November 2012, 221-226, ISSN: 2277-3754
36. Axita Shah, **Sonal Jain** (2011), An Agent-based Personalized Intelligent e-learning, International Journal of Computer Applications, 20(3) pp. 40-45, April 2011, Foundation of Computer Science, New York, USA, ISSN: 0975 – 8887, doi: 10.5120/2411-3215

Articles / Chapters published in Books/ Full Papers in Conference

Proceedings

1. Agarwal, B., Jain, S., Bansal, P., Shrivastava, S., Mohan, N. (2023). Dysgraphia Detection Using Machine Learning-Based Techniques: A Survey. In: Rathore, V.S., Tavares, J.M.R.S., Piuri, V., Surendiran, B. (eds) Emerging Trends in Expert Applications and Security. ICE-TEAS 2023. Lecture Notes in Networks and Systems, vol 681. Springer, Singapore. https://doi.org/10.1007/978-981-99-1909-3_28
2. S. Bhandari, S. Pathak, S. Jain and V. Deshmukh (2022), A Review on Swarm Intelligence & Evolutionary Algorithms based Approaches for Diabetic Retinopathy Detection, 2022 IEEE World Conference on Applied Intelligence and Computing (AIC), 2022, pp. 161-166, doi: 10.1109/AIC55036.2022.9848841.
3. Monish, E.S., Sharma, A., Agarwal, B., Jain, S. (2022). Game-Based Learning System for Improving Student's Learning Effectively: A Survey. In: Balas, V.E., Sinha, G.R., Agarwal, B., Sharma, T.K., Dadheech, P., Mahrishi, M. (eds) Emerging Technologies in Computer Engineering: Cognitive Computing and Intelligent IoT. ICETCE 2022. Communications in Computer and Information Science, vol 1591. Springer, Cham. https://doi.org/10.1007/978-3-031-07012-9_1
4. Gupta U., Jain S., Kumawat D. (2021) Water Quality Based Zonal Classification of Rajasthan Using Clustering. In: Borah S., Pradhan R., Dey N., Gupta P. (eds) Soft Computing Techniques and Applications. Advances in Intelligent Systems and Computing, vol 1248. Springer, Singapore. https://doi.org/10.1007/978-981-15-7394-1_41
5. Pathak S., Jain S., Borah S. (2021) Clustering Algorithms for MANETs: A Review on Design and Development. In: Borah S., Pradhan R., Dey N., Gupta P. (eds) Soft Computing Techniques and Applications. Advances in Intelligent Systems and Computing, vol 1248. Springer, Singapore. https://doi.org/10.1007/978-981-15-7394-1_51
6. Dubey A.K., Gupta U., **Jain S.** (2020) Computational Measure of Cancer Using Data Mining and Optimization. In: Karrupusamy P., Chen J., Shi Y. (eds) Sustainable Communication Networks and Application. ICSCN 2019. Lecture Notes on Data Engineering and Communications Technologies, vol 39. Springer,

Cham, DOI: https://doi.org/10.1007/978-3-030-34515-0_65, Print ISBN: 978-3-030-34514-3, Online ISBN: 978-3-030-34515-0 (**Scopus Indexed**)

7. Khangarot, Harshita and **Jain, Sonal** and Gupta, Umesh (2019), Framework for Managing Collection of E-Waste in Household (October 3, 2019). Proceedings of International Conference on Advancements in Computing & Management (ICACM) 2019, <http://dx.doi.org/10.2139/ssrn.3463682>
8. **Jain S.**, Khangarot H., Singh S. (2019) Journal Recommendation System Using Content-Based Filtering. In: Kalita J., Balas V., Borah S., Pradhan R. (eds) Recent Developments in Machine Learning and Data Analytics. Advances in Intelligent Systems and Computing, vol 740., ISBN: 978-981-13-1279-3, September 2018, Springer, Singapore (**Scopus Indexed**)
9. Jadwal, Pankaj Kumar, Sonal Jain, Umesh Gupta, and Prashant Khanna (2019). Clustered Support Vector Machine for ATM Cash Repository Prediction. In Progress in Advanced Computing and Intelligent Engineering, pp. 189-201. Springer, Singapore, ISBN: 978-981-13-1707-1., <https://www.springerprofessional.de/en/clustered-support-vector-machine-for-atm-cash-repository-predict/17704016>
10. Jadwal, P.K., **Jain, S.**, Gupta, U., Khanna, P., (2018) K-Means Clustering with Neural Networks for ATM Cash Repository Prediction, Satapathy S., Joshi A. (eds), Smart Innovation, Systems and Technologies, Springer, 2190-3018, Page no. 598, ISBN: 978-3-319-63673-3 (**Scopus Indexed**)
11. Gupta, U., **Jain, S.**, Bhatia, M. (2018), Mean Reversion with Pair Trading in Indian Private Sector Banking Stocks, Satapathy S., Joshi A. (eds), Smart Innovation, Systems and Technologies, Springer, 2190-3018, Page no. 384, ISBN: 978-3-319-63673-3 (**Scopus Indexed**)
12. T. Dodiya and S. Jain, (2017), Question classification for medical domain Question Answering system, 2016 IEEE International WIE Conference on Electrical and Computer Engineering (*WIECON-ECE*), Pune, IEEE Explore, pp. 204-207. doi: 10.1109/WIECON-ECE.2016.8009118, e-ISBN: 978-1-5090-3745-2 (**Scopus Indexed**)
13. Rijwani, P. and Jain, S, (2016), Enhanced Software Effort Estimation Using Multi Layered Feed Forward Artificial Neural Network Technique, Procedia Computer Science, Elsevier Publishers, Volume 89, 2016, Pages 307–312, Twelfth International Conference on Communication Networks, ICCN 2016, August 19–21, 2016, Bangalore, India, ISSN 1877-0509 (**Scopus Indexed**)

14. Khanna, P.; **Jain, S.**; Babu, B.V.,(2015), BroCUR: Distributed cloud broker in a cloud federation: Brokerage peculiarities in a hybrid cloud, International Conference on Computing, Communication & Automation (ICCCA), IEEE Explore, July-2015, pp.729-734, 15-16 May 2015, eISBN: 978-1-4799-8890-7, doi: 10.1109/CCAA.2015.7148472 **(Scopus Indexed)**
15. A.K. Dubey, U. Gupta, and **S. Jain** (2014), A Survey on Breast Cancer Scenario and Prediction Strategy, 2014, S.C. Satapathy et al. (eds.), Proc. of the 3rd Int. Conf. on Frontiers of Intelligent Computing (FICTA) 2014, – Vol. 1, Advances in Intelligent Systems and Computing 327, DOI: 10.1007/978-3-319-11933-5_40, ISBN: 978-3-319-11932-8, Springer International Publishing Switzerland 2015 **(Scopus Indexed)**
16. Khanna, P.; **Jain, S.**, Distributed Cloud Federation Brokerage: A Live Analysis in: proc. 7th IEEE/ACM International Conference on Utility and Cloud Computing (UCC), 8-11 Dec. 2014, London UK, IEEE 2014, pp. 738-743, eISBN; 978-1-4799-7881-6, doi: 10.1109/UCC.2014.120 **(Scopus Indexed)**
17. Pathak, Sunil; Dutta, Nitul; **Jain, Sonal**, “An Improved Cluster Maintenance Scheme for Mobile AdHoc Networks,” International Conference on Advances in Computing, Communications and Informatics (ICACCI, 2014, vol., no., pp.2117,2121, 24-27 Sept. 2014, , IEEE Explore, Print ISBN: 978-1-4799-3078-4, doi: 10.1109/ICACCI.2014.6968281 **(Scopus Indexed)**
18. Khanna, Prashant; **Jain, Sonal**; Babu B. V.,(2014), Cloud Broker: Working in federated structures, International Conference on Advances in Computing, Communications and Informatics (ICACCI, 2014), vol., no., pp.1273,1278, 24-27 Sept. 2014, IEEE Explore, Print ISBN: 978-1-4799-3078-4, doi: 10.1109/ICACCI.2014.6968660 **(Scopus Indexed)**
19. Dodiya, T., **Jain, S.** (2012). Comparison of Question Answering Systems, Intelligent Informatics. Series Title: Advances in Intelligent Systems and Computing, Proceedings of the International Symposium on Intelligent Informatics ISI'12 held at Chennai, India. Heidelberg, Berlin, Germany: Springer, 182, 99-107, ISBN: 978-3-319-01778-5, International Symposium on Intelligent Informatics (ISI'12) held in Chennai, India during August 4-5, 2012 **(Scopus Indexed)**
20. Jyoti Pareek, **Sonal Jain**, Hiral Parmar, Manisha Chavda (2012), Integrated System for Opinion Extraction and Sentiment Analysis for Tourism, International Conference on Information, Knowledge & Research in Engineering, Technology &

Sciences – 2012, ISBN No. 978-81-906220-3-5, 24-25 March, 2012, G. K. Bharad Institute of Engineering, Rajkot.

21. Axita Shah, **Sonal Jain**, Rushabh Chheda, Avni Mashru, "Model for Re-ranking Agent on Hybrid Search Engine for E-learning", T4E, 2012, 2012 IEEE Fourth International Conference on Technology for Education, 2012 IEEE Fourth International Conference on Technology for Education 2012, pp. 247-248, September 2012, ISBN: 978-1-4673-2173-0, doi:10.1109/T4E.2012.55 (**Scopus Indexed**)
22. **Jain, S.**, Pareek, J. (2010), Automatic Identification of Granularity level of learning document, IEEE Explore, Print ISBN 978-1-4244-5505-8, Library of Congress 200993780, July 2010 (**Scopus Indexed**)
23. **Jain, S.**, Pareek, J. (2010), Automatic Topic(s) Identification from Learning material: An Ontological Approach, IEEE Explore, Print ISBN 978-0-7695-3982-9, DOI: 10.1109/ICCEA.2010.221 , April 2010 (**Scopus Indexed**)
24. **Jain, S.**, Pareek, J., (2009) KeyPhrase Extraction Tool (KET) for Semantic Metadata Annotation of Learning Materials, IEEE Explore, Print ISBN: 978-0-7695-3654-5, INSPEC Accession Number: 10789145, Digital Object Identifier: 10.1109/ICSPS.2009.192, July 2009 (**Scopus Indexed**)

Papers Presented- International Conferences:

1. Sonal Jain, Medha Chippa, Priti Sajja, Basant Agarwal, Prateek Sharma, Early and Automated Identification of Dysgraphia using Deep Convolution Networks, 3rd International Conference on Women in Science & Technology: Creating Sustainable Career organized by BVM, Vallabh Vidhya nagar, 28-30 December 2023
2. PV Virpariya, Sonal Jain, Cultivating Success: Harnessing the power of Artificial Intelligence, Driving Agriculture Forward: Recent Trends and Innovations in Agricultural Market Intelligence, Organized by Centre for Agricultural Market Intelligence under NAHEP-CAAST In Collaboration with School of Computer, Data & Mathematical Science, Parramatta, Western Sydney University, Australia, December 11-13, 2023
3. Basant Agarwal, Sonal Jain, Priyal Bansal, Sanatan Shrivastava, and Navyug Mohan, Dysgraphia Detection Using Machine Learning Based Techniques: A Survey” Special session on the theme “Educational Practices for Special Needs, INTERNATIONAL CONFERENCE on SUSTAINABLE FUTURE: INNOVATIONS IN EDUCATION, (February 25-26, 2022)

4. Pankaj Jadwal, Sunil Pathak, Sonal Jain, Assessment of Clustering Algorithms for Credit risk evaluation applied on Factorial co-ordinates obtained using Multiple Correspondence Analysis, Computing, Communication and Sensor Network, organized by Applied Computer Technology, Kolkata in association with International Association of Science, Technology and Management, October 2-4, 2021 (Online Mode)
5. Pankaj Jadwal, Sonal Jain, Sunil Pathak, Basant Agarwal, Improved Sampling algorithm through a modified oversampling approach based on Spectral Clustering and SMOTE, Computing, Communication and Sensor Network, organized by Applied Computer Technology, Kolkata in association with International Association of Science, Technology and Management, October 2-4, 2021 (Online Mode)
6. Sonal Amit Jain, Umesh Gupta, Dharmendra Kumawat, Water Quality Based Zonal Classification of Rajasthan using Clustering, The third International Conference on Computing and Communication (IC3-2020), 13-14 July 2020, Sikkim Manipal Institute of Technology, Sikkim.
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Achievements and Awards:

- Sardar Patel Research Award , 2nd Position, for the paper titled Intelligent Recommendations for Socio-Economic Uplift for Indian Women through a Hybrid Multi-Agent Intelligent System as a co-author of the paper
- Best Paper Award for Improved Sampling algorithm through a modified oversampling approach based on Spectral Clustering and SMOTE, Computing, Communication and Sensor Network, organized by Applied Computer Technology, Kolkata in association with International Association of Science, Technology and Management, October 2-4, 2021 (Online Mode)
- Student Choice Award on Teacher’s day, 2018 by Students of JK Lakshmipat University Jaipur
- Best Paper Award for A Survey of User’s Perception Concerning e-waste Management

Presented at 6th International Conference on “Green, Growth, Globalization, Governance and GST: Challenges and Opportunities, February 2-4, 2018, Jaipur

- Young Scientist Award for Initiatives Discoveries, and Developments in the discipline of Information Retrieval by Venus International Foundation, Chennai, December 2016
- Vaigyanik Drashtikon Award at 4th Rajasthan Science Congress for Paper “Recommendation System for Diseases in Kids” presented in 4th Rajasthan Science Congress held at JK Lakshmi Pat University, Jaipur, October 16-18, 2016, Co-authors of Paper: Ankit Nahata, Rohan Dosi, students of JKLU and Tripti Dodiya, Faculty, GLS University, Ahmedabad.
- Felicitated by Lions Club on Teacher’s Day
- Achievement Badge in the *Pattern Discovery in Data Mining* course offered by the University of Illinois at Urbana-Champaign.
- Won Cash prize for paper “e-portfolio a valuable tool connecting faculty employer and students” the paper was adjudged as third best-presented paper at E-biz summit national seminar and paper presentation contest organized by SEMCOM (Charotar Vidya Mandal)
- Represented DAVV in State Inter-university Youth Festival for event One Act play and won second prize
- Gold Medal in 12th Standard