DR. JYOTI YASHAVANT YADAV

Contact Information

- Department of Computer Science, Savitribai Phule Pune University
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Career Summary

- Highly distinguished academic and research professional with an illustrious career spanning over 30 years in Computer Science.
- Expertise in Fuzzy Logic, AI/ML, Cloud Computing, Quantum Computing, Blockchain, and Big Data.
- Proven research record with 20+ journal publications, 11 book chapters, 5 granted and 2 published Indian patents, 2 funded projects, and 8 Ph.D. students awarded and 4 pursuing.
- Appointed as IQAC coordinator and nodal officer for dashboard portal.

Academic Qualifications

- Ph.D. (Computer Science)
- M.Phil. (Computer Science)
- NET Qualified
- M.C.S. (Computer Science)

Academic Positions

- Current Role: Assistant Professor, Department of Computer Science
- Teaching Experience**:** 30 years
- Research Experience: 20+ years

Teaching Interests

- Data Science, Machine Learning, Blockchain Technology, Cloud Computing
- Software Defined Networks, Cyber Security, AI/ML
- TCS & CC, Assembly Programming, Computer Organization

Research Experience

Recognized for an extensive contribution to the academic and research domains, including 26 peer-reviewed journal publications, 11 book chapters, and 9 granted Indian patents in cutting-edge areas such as Artificial Intelligence, Cloud Computing, and Big Data. Successfully supervised 12 Ph.D. scholars, demonstrating a strong commitment to advancing knowledge in key technological fields.

A. Research Papers Publication

1. Jyoti Yadav, Vilas Kharat, and Ashok Deshpande Fuzzy Description of Air Quality: A Case Study. LNCS-6954 (Lecture Notes in Computer Science), :420–427, 2011, doi: 10.1007/978-3-642-24425-4_55 [SCOPUS, Web of Science]
2. Jyoti Yadav, Vilas Kharat, and Ashok Deshpande Evidence Theory and Fuzzy Relational Calculus in Estimation of Health Effects Due to Air Pollution. Journal of Intelligent Systems, 22(1):9–23, 2013, doi: 10.1515/jisys-2012-0018 [SCOPUS, Web of Science]
3. Jyoti Yadav, Vilas Kharat, and Ashok Deshpande Zadeh-Deshpande Approach for Fuzzy Description of Air and Water Quality. BVICAM's International Journal of Information Technology, 6(1):677–682, 2014 [SCOPUS, Web of Science]
4. Jyoti Yadav, Vilas Kharat, and Ashok Deshpande Fuzzy Description of Air Quality Using Fuzzy Inference System with Degree of Match via Computing with Words: A Case Study. Air Quality, Atmosphere and Health, 7(3):325–334, 2014, doi: 10.1007/s11869-014-0239-x [SCOPUS, Web of Science]
5. Jyoti Yadav, Vilas Kharat, and Ashok Deshpande Fuzzy-GA Modelling in Air Quality Assessment. Environmental Monitoring and Assessment, 187(4):177–187, 2015, doi: 10.1007/s10661-015-4351-7 [SCOPUS, Web of Science]
6. Anil Namdeo, Jyoti Yadav and Ashok Deshpande Belief and Plausibility of UK Pulmonologists on Health Effects Due to Air Pollution: Revisited. International Journal of Health Sciences and Research, 5(12), 2016, 346-354, ISSN: 2249-9571, DOI:10.52403/ijhsr (UGC Care List No. 48593)
7. Jyoti Yadav Primary, Technical and Implementation Barriers in Blockchain Technology. International Journal of Modern Trends in Engineering and Research, 5(4), 2018,195-206, ISSN:2349-9745, e-ISSN: 2393-8161 DOI:10.21884/IJMTER.2018.5122.4WJXQ, (UGC Care List No. 44669)
8. Jyoti Yadav Forecasting Model for Short Term Momentum of Nifty Index Based on Fuzzy Logic. International Journal of Advance Engineering and Research Development, 5 (4), 2018, 2079-2091, ISSN: 2348-6406, DOI:10.21090/IJAERD.49741 (UGC Care List No. 44839)
9. Jyoti Yadav Software Comprehension Using Open Source tools: A Study. International Journal of Computer Sciences and Engineering, 7(3),2019, 657-668, ISSN:2347:2693, DOI:10.26438/ijcse/v7i3.657668 (UGC Care List No. 63193)
10. Vijaya Kumbhar, Jyoti Yadav, and Ajay Kumar A Conceptual Paper on Multi-Scale Applications in Cloud Environment with Reference to Variety of Data. International Journal of Innovative Technology and Exploring Engineering, 9(5):1229–1235, 2020, doi: 10.35940/ijitee.D1808.039520 [SCOPUS]
11. Vinaya Keskar, Jyoti Yadav, and Ajay Kumar Big Data Analytics: Challenges, Openings, Issues, Tools, and Techniques. International Journal of Grid and Distributed Computing, 13(2):2454–2474, 2020 [SCOPUS]
12. Vinaya Keskar, Jyoti Yadav, and Ajay Kumar 5V's of Big Data Attributes and their Relevance and Importance across Domains. International Journal of Innovative Technology and Exploring Engineering, 9(11):154–163, 2020, doi: 10.35940/ijitee.K7709.0991120 [SCOPUS]
13. Vinaya Keskar, Jyoti Yadav, and Ajay Kumar Taxonomy of Data Inconsistencies in Big Data. Information Technology in Industry, 9(1):353–363, 2021, doi: 10.17762/itii.v9i1.139
14. Jyoti Yadav and Ranjana Shevkar Performance-Based Analysis of Blockchain Scalability Metric. Tehnički glasnik, 15(1):133–142, 2021, doi: 10.31803/tg-20210205103310 [SCOPUS, Web of Science]
15. Mahendra Suryavanshi, Ajay Kumar, and Jyoti Yadav An application layer technique to overcome TCP incast in data center network using delayed server response. International Journal of Information Technology, 13(2):703–711, 2021, doi: 10.1007/s41870-020-00579-6 [SCOPUS, UGC Care]
16. Vijaya Kumbhar, Jyoti Yadav, and Ajay Kumar Least afflicted load balancing algorithm (LALBA) for performance improvement of multi-scale applications in cloud environment. Turkish Journal of Computer and Mathematics Education, 12(2):1709–1720, 2021, doi: 10.17762/TURCOMAT.V12I2.1507 [SCOPUS]
17. Mahendra Suryavanshi, Ajay Kumar, and Jyoti Yadav Balanced Multipath Transport Protocol for Mitigating MPTCP Incast in Data Center Networks. International Journal of Next Generation Computing, 12(3):328–342, 2021, doi: 10.47164/ijngc.v12i3.809 [Web of Science, UGC Care]

18. Pallavi Mandhare, Jyoti Yadav, Vilas Kharat, and C. Y. Patil Control and Coordination of Self-Adaptive Traffic Signal Using Deep Reinforcement Learning. International Journal of Next Generation Computing, 12(2):190–199, 2021, doi: 10.17762/ITII.V9I1.141 [Web of Science, UGC Care]
19. Vinaya Keskar, Jyoti Yadav, and Ajay Kumar Perspective of anomaly detection in big data for data quality improvement. Materials Today: Proceedings, 51(1):532–537, 2022, doi: 10.1016/j.matpr.2021.05.597 [SCOPUS]
20. Mahendra Suryavanshi and Jyoti Yadav Mitigating TCP Incast in Data Center Networks using Enhanced Application Layer Technique. International Journal of Information Technology, 6(1):677–682, 2022, doi: 10.1007/s41870-022-00976-z [SCOPUS]
21. Jyoti Yadav and Kavita Ahire Network Topology Classification in SDN Ecosystem using Machine Learning. International Journal of Next-Generation Computing, 13(2):162–180, 2022, doi: 10.47164/ijngc.v13i2.410 [Web of Science, UGC Care]
22. Jyoti Yadav and Kavita Ahire Evolving Network Paradigms: The Software-Defined Network Revolution. Journal of Technology, 12(9):1284–1292, 2024. [SCOPUS]
23. Jyoti Yadav, Swati Jadhav, Vilas Kharat, and A.D. Shaligram Strengthening Federated Learning: Addressing Model Poisoning Attack and Defense Methods. Journal of Electrical Systems, 20(3):8684–8696, 2024. [Web of Science, SCOPUS]
24. Nilambari Mate and Jyoti Yadav Challenges in Safeguarding Machine Learning Models Against Adversarial Attacks. Journal of Electrical Systems, 20(3):8684–8696, 2024. [Web of Science, SCOPUS]
25. Jyoti Yadav, Ihsan Hamza Jumaa, Masoumeh Norouzifard Important Feature Selection Method for Temporal and Information Aware Clustering of Internet of Things Stream Data, Power System Technology, 49(3), 2025, 464-495, ISSN: 1000-3673. [SCOPUS]
26. Jyoti Yadav, Ihsan Hamza Jumaa, Masoumeh Norouzifard Ensemble Clustering for Uncertainty Reduction in Dynamic IoT Data, Artificial Intelligence Review, 59(4), 2026. [Web of Science]

B. Book Chapters Publication

1. Jyoti Yadav et al. Fuzzy Logic Application in Water Supply System Management: A Case Study In: IEEE Xplore, pp. 1–4, 2012, doi: 10.1109/NAFIPS.2012.6291060, ISBN: 978-1-4673-2337-6.
2. Jyoti Yadav and Ashok Deshpande Can Fuzzy Logic via Computing with Words bring Complex Environmental Issues into Focus? In: In: Chakraborty S., Bhattacharya G. (eds) Springer, pp. 297–308, 2012, doi: 10.1109/NAFIPS.2012.6291060, ISBN: 978-81-322-0757-3.
3. Jyoti Yadav, Vilas Kharat, and Ashok Deshpande Do Experts Agree Significantly in Fuzzily Describing Air Quality? A Case Study In: In: Chaba Y. (ed) Advances in Engineering and Technology Series, ITI Canada, pp. 107–113, 2013, doi: , ISBN: 978-1-63439-120-7.
4. Jyoti Yadav, Vilas Kharat, and Ashok Deshpande Zadeh-Deshpande (ZD) Fuzzy Logic Based Formalism for Linguistic Description of Air Quality: A Case Study In: IEEE Xplore, pp. 1–7, 2014, doi: 10.1109/ICIEV.2014.6850706, ISBN: 978-1-4799-5180-2.
5. Jyoti Yadav Fuzzy Logic and Fuzzy Set Theory: Overview of Mathematical Preliminaries In: In: Faybishenko B., Sadiq R., Deshpande A. (eds) Fuzzy Systems Modeling in Environmental and Health Risk Assessment, Wiley, pp. 13–29, 2023, doi: 10.1002/9781119569503.ch1, ISBN: 9781119569508.
6. Jyoti Yadav and Kedar Rijal Environmental Quality Assessment Using Fuzzy Logic In: In: Faybishenko B., Sadiq R., Deshpande A. (eds) Fuzzy Systems Modeling in Environmental and Health Risk Assessment, Wiley, pp. 67–77, 2023, doi: 10.1002/9781119569503.ch4, ISBN: 9781119569508.
7. Jyoti Yadav and Kalyani Salla Optimal Ranking of Air Quality Monitoring Stations and Thermal Power Plants in a Fuzzy Environment In: In: Faybishenko B., Sadiq R., Deshpande A. (eds) Fuzzy Systems Modeling in Environmental and Health Risk Assessment, Wiley, pp. 95–114, 2023, doi: 10.1002/9781119569503.ch6, ISBN: 9781119569508.
8. Jyoti Yadav and Kedar Rijal Evaluation of Health Effects Due to Environmental Pollution Based on Belief and Possibility In: In: Faybishenko B., Sadiq R., Deshpande A. (eds) Fuzzy Systems Modeling in Environmental

and Health Risk Assessment, Wiley, pp. 117–131, 2023, doi: 10.1002/9781119569503.ch7, ISBN: 9781119569508.

9. Jyoti Yadav and Ashok Deshpande Risk Based Optimal Ranking of Air Quality Monitoring Stations in a Fuzzy Environment: A Case Study In: In: Shiva Nagendra S. M., Schlink U., Müller A., Khare M. (eds) Urban Air Quality Monitoring, Springer, pp. 197–210, 2021, doi: 10.1007/978-981-15-5511-4_14, ISBN: 978-981-15-5510-7.
10. Jyoti Yadav, Vinaya Keskar, and Ajay Kumar Enhancing Data Quality by Detecting and Repairing Inconsistencies in Big Data In: In: Yadav S., Haleem A., Arora P. K., Kumar H. (eds) Proc. of 2nd Int. Conf. in Mechanical and Energy Technology, Springer, pp. 185–197, 2022, doi: 10.1007/978-981-19-0108-9_20, ISBN: 978-981-19-0108-9.
11. Jyoti Yadav and Ranjana Shevkar Exploring Efficacy of Cryptographic Hash Functions SHA-256 and BLAKE2s Against HashBoost In: In: Verma A., Verma P., Pattanaik K.K., Buyya R., Dasgupta D. (eds) Advanced Network Technologies and Intelligent Computing, Springer, pp. 47–61, 2024, doi: 10.1007/978-3-031-83783-8_3, ISBN: 9783031837821.

C. E-Content Development:

I. Web Technology

1. https://www.slideshare.net/jyotiyyadav/1-web-technology-basics
2. https://www.slideshare.net/jyotiyyadav/2a-web-technology-html-basics-1
3. https://www.slideshare.net/jyotiyyadav/2b-web-technology-html-basics2
4. https://www.slideshare.net/jyotiyyadav/3-web-technology-advanced-html
5. https://www.slideshare.net/jyotiyyadav/4-web-technology-css-basics1
6. https://www.slideshare.net/jyotiyyadav/5-web-technology-css-advanced
7. https://www.slideshare.net/jyotiyyadav/6-web-publishing

II. Machine Learning

1. https://www.slideshare.net/jyotiyyadav/1-demystifying-mlpdf
2. https://www.slideshare.net/jyotiyyadav/2-data-preprocessingpdf
3. https://www.slideshare.net/ jyotiyyadav /3-regressionpdf
4. https://www.slideshare.net/jyotiyyadav/4-classificationpdf
5. https://www.slideshare.net/jyotiyyadav/5-types-of-clustering-algorithms-in-ml-pdf
6. https://www.slideshare.net/ jyotiyyadav /6-association-rulepdf
7. https://www.slideshare.net/ jyotiyyadav /7-reinforcement-learningpdf
8. https://www.slideshare.net/ jyotiyyadav /8-deep-learningpdf

III. Blockchain Technology

1. Part 1: Introduction to Blockchain Fundamentals | PPT
2. Part 2 Blockchain Programming Using Python.pdf
3. Part 3 Introduction to Cryptocurrency.pdf
4. Part 4: Understanding the working of Smart Contracts | PPT

IV. CA-504 MJ Persistent Data Management: Developed E-content for the course (Online MCA)

V. CA-554 MJ Foundations of Data Analytics: Developed E-content for the course. (Online MCA)

D. Research Guidance:

Sr. No.	Name of the Student	Research Topic
1.	Kumbhar Vijaya Rohidas	Performance Measurement of Multi-Scale Applications in Cloud Environment
2.	Suryavanshi Mahendra Narayan	Design and Development of Multipath TCP (MPTCP) protocol with large Fan-in and Fan-Out to overcome Incast Problems in Cloud Data Center
3.	Mandhare Pallavi Arvind	Automated Control of Vehicular Traffic Congestion: An Integrated Approach
4.	Keskar Vinaya Vishwas	Designing Methods for Detection and Repairing Inconsistencies in Big Data for Improving Data Quality
5.	Kavita Pankaj Ahire	Adaptable Network Security Paradigm for Software Defined Network
6.	Ranjana Sanjay Shevkar	Enhancing Scalability and Performance in Blockchain Technology
7.	Nilambari Mate	Enhancing Robustness of Machine Learning Models by Preventing Data Poisoning Attack
8.	Ihsan Hamza Jumaa	Modelling of the Uncertainty in IoT Stream Data Using Intelligent Techniques
9.	Swati Jadhav	Prevention of Poisoning in Federated Machine Learning Model
10.	Mayuri Devendra Bhandari	FUSE-XAI: An Integrative Framework for Multimodal Explainability and Systematic Evaluation in AI Systems
11.	Ashwini Amol Satkar	Federated Learning Framework for Detection of Multi-Vector Attacks in Cloud Ecosystem
12.	Dipali Sunil Tamhane	An Intelligent Framework for Enhancing Convergence in Variational Quantum Algorithms

E. Research Projects:

Sr. No.	Research Topic	Year	Grant Received
1	BCUD Minor Research Project Domestic Water Needs, Consumer's Perception and Fuzzy Logic	2012-2014	1,90,000
2	UPE-II Biodiversity Research Project	2016 to 2018	12.65 lakhs

F. Intellectual Property Rights (Patents):

https://iprsearch.ipindia.gov.in/PublicSearch/PublicationSearch/PatentDetails

Sr. No.	Patents Published (National)	Publication Date/Grant Date	Publication/Appln Number
1	Least Afflicted Load Rebalancer System and Method	18/6/2021 **11/08/2022**	202121021240 (Grant No. 403426)
2	A Method and System for Solving MPTCP Incast in Data Centre Networks	04/03/2022 **27/02/2023**	202221007246 (Grant No. 423259)
3	A Computer Implemented Method and System to Detect and Repair Inconsistent Tuples	03/02/2022 **09/08/2023**	202221005940 (Grant No. 444021)
4	An Adaptive Multi-Agent System for Intelligent Traffic Signal Control	28/06/2023 **28/06/2024**	202321036476 (Grant No. 543527)
5	Multi-Faceted Approach for Uncertainty Mitigation in IOT Stream Data.	24/5/2024 **23/07/2025**	202421029425 (Grant No. 569021)
6	System and Method for Processing High Efficiency Cryptographic Hashing	29/11/2024	202421081224
7	System and Method for Training a Machine Learning Model to Resist Adversarial Attacks	06/12/2024	202421088389A

8	Metaheuristic-Driven Anomaly-Resilient Adaptive Aggregation Method and System for Defense Against Model Poisoning Attacks in Federated Learning	24/04/2026	202621026319 A
9	Leucocephalus Social Swoop Optimization Method and System for Reliable Client Updates in Federated Learning	01/05/2026	202621028093 A

G. Invited lectures/ Resource Person/ paper presentation in Seminars/ Conferences/ full paper in Conference Proceedings:

Sr. No.	Title of the Paper Presented	Conference/Seminar	State/International/ National
1	Comparative Evaluation of Selective Methods in Air Quality Classification: A Case Study	National Conference on: Fuzzy Soft Computing and Mathematical Analysis (FSCMA-2012)"	National
2	Risk Based Optimal Ranking of Air Quality Monitoring Stations for Identification of Pollution Mitigation Measures in a Fuzzy Environment	International Conference on Air Quality Management (IICAQM-16)	International
3	Risk Based Optimal Ranking of Polluted Cities in a Fuzzy Environment: A Case Study	2016- Proceedings of International Conference of Emerging Trends in Engineering and Technology (IETET-2016)	International
4	Securing Electronic Voting Machines with Blockchain Technology: A Review	Proceedings of Vijnana Parishad of India on Recent Trends of Computing in Mathematics, Statistics and Information Technologies (RTCMSIT- 2018)	International
5	Centralized Controller Placement Problem in Software Defined Networks	International Conference on Advances in Physical, Chemical and Mathematical Sciences (ICAPCM-2020	International
6	Resource Person at an International Training Workshop on "Environmental Statistics for Professionals" organized by IIT Bombay.	International Training Workshop Dec. 27-30,2011	International
7	Recent Trends in Network and Mobile Security-Akurdi College (23rd Jan 2011)	Resource Person	National Seminar Resource Person
8	National Conference on Cyber Security	Cyber Security- Waghire College (16-17 Feb. 2016)	National Seminar Resource Person
9	Data Science & Data Analytics-AM College, Hadapsar	Keynote Speaker	State

I am an accomplished academician and researcher with a proven track record of impactful contributions to the fields of Computer Science, Artificial Intelligence, and Cloud Computing. With a blend of extensive teaching experience, pioneering research, and technical acumen, I continue to drive innovation and excellence, aspiring to contribute further to cutting-edge developments and transformative solutions in the technological landscape.

Dr. Jyoti Yashavant Yadav

Department of Computer Science