

Dr. Rachana A. Dhannawat

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Address: B2 / 704, Sai Drishti, Station Road, Near Hotel Hardik Palace, Mira Road (E), Mumbai 401107

Date of Birth: 18th March 1982

Languages Known: English, Marathi, Hindi, Marwari, and Sanskrit



Education

Ph.D. (Technology- Computer Engineering)- Mumbai University (29-1-2022)

Master of Engineering (Computer)- Mumbai University (2012)-79.14 %

Bachelor of Engineering (Computer)- Amravati University (2003)-72%

H.Sc. Maharashtra board – (1999)- 81%

S.Sc. Maharashtra board – (1997)- 71%

Experience

- **Assistant Professor at Usha Mittal Institute of Technology, SNDT University, Mumbai 12/12/2005 to till date (19+ years)**
- **Lecturer at Anuradha Engineering college, Chikhali, dist: Buldhana, 20/6/05 to 26/11/05 (5 months)**
- **Lecturer at Govt. Polytechnic College, Washim, 16/8/04 to 28/2/05 (6 months)**

Certifications

1. Online **Certificate course** by Coursera on “Machine Learning for all” received certificate on 30/4/2020 organized by Intel.
2. Online **Certificate course** by Coursera on “An Introduction to practical Deep Learning” received certificate on 26/5/2020 organized by University of London.
3. Online **Certificate course** on “Technical Communication for Scientists and Engineers” by IIT Mumbai.
4. Coursera guided project on” Linear Regression with Numpy and Python”, on 7/4/2022.

5. Online Innovation Ambassador (IA) Training Foundation Level by MoE's Innovation cell and AICTE in April 2023 and also worked evaluator for YUKTI.

Programming Languages Known

C, C++, VB, PL /SQL, ORACLE, HTML, VC++, FoxPro, Java, MATLAB, Python, R

Subjects Taught

Neural Network & deep learning, Image Processing, Computer Graphics, Data structure & file processing, Data structure & Algorithms, Computer Architecture & Organization, C language Programming, Object Oriented Programming with C++, Computational Data Analytics, Octave Programming, Computer Network, HTML, System Analysis & Design, Unix.

Membership of profession Bodies

- Life Member of ISTE (Indian Society for Technical Education) (LM 80098)
- Member of IAENG (International Association for Engineers)
- Member of ICGST (International Congress for Global Science and Technology)

Research Areas

Ph. D: Image Restoration of Noisy and Blurred Images

M.E.: Image Fusion

Recognized as Ph. D. Guide in Computer Science and Technology, UMIT, SNTD University since 2024 (2 students registered)

Research Project

SNTD University sanctioned project on "Artificial Intelligence in Agriculture" Amount : 1,20,000, duration 2 years

Researcher ID's

ORcid-id: 0000-0002-8939-5859
Widwan id: 253566

Scopus Author id: 55575541700
Web of Science id: ACN-9441-2022

Reviewer

- 1) Reviewers and Meta reviewer for the International Conference on climate change , at Chandrapur in January 2025
- 2) Reviewer for the *International Conference on Artificial Intelligence, Machine Learning and Defensive Security (DefenSec2025)* held on June 20–21, 2025, at SNDT Women's University, Mumbai, in collaboration with Vulnuris Security Solutions LLP
- 3) Reviewed Web of Science Research Papers of journal Remote sensing letters

Major Responsibilities handled

- 1) **Head of Department Computer Engineering , UMIT(4 + years)**
- 2) Seminar, Mini project, Major Project coordinator (14 years), Designed rubrics for project evaluation
- 3) Class advisor of second year / third year (16 years)
- 4) National Service Scheme (NSS) Program Office (4 years)
- 5) Lab In charge (16 years)
- 6) Coordinator of CST department project exhibition (2 years)
- 7) Acted as University member of Local Enquiry Committee for various institutes
- 8) Acted as University member of vigilance squad during examination for various institutes
- 9) Host of University Program SNDT4Ueveryday@11
- 10) Project guide for UG and PG students
- 11) Purchase and maintenance committee (4 years)
- 12) IIC member (3 years)
- 13) CAP coordinator of UMIT
- 14) College SPOC for Smart India Hackathon in 2023-24 and Jury member of internal hackathon in 2024-25 and 2025-26

Papers Presented in Conferences

- 1) Rachana Dhannawat, "Study on Improving Performance of Data Warehousing", presented in 3rd National Conference on Nascent Trends in Information and Communication Technologies (equinox) , at Terna Engineering college, Nerul , September 2011, pages 62-64.
- 2) Rachana Dhannawat, Tanuja Sarode, H.B. Kekre "Image Fusion using Kekre's Hybrid Wavelet Transform", presented in **IEEE** International Conference on Communication Information & Computing Technology (ICCICT), Sardar Patel Institute of Technology, Andheri(W), uploaded on IEEE explorer, 20th October 2012, pages: 1-6 ISBN 9781457720765 (**Scopus Indexed**) .
- 3) Rachana Dhannawat, Archana Patankar," Comparison of Haar and Kekre's Wavelet for Image Denoising", presented in **IEEE** International Conference on Computing, Communication, Control and Automation ICC³A 2017 at Pimpri Chichvad College of Engineering , Pune,17 August 2017(**Scopus Indexed**) .

- 4) Rachana Dhannawat, Archana Patankar, "A New and Fast method for Image Denoising using KPE Vector Quantization Technique and its comparison with LBG", presented in **IEEE** International Conference on Communication Systems, Computing & IT applications at St. Francis Institute of Technology, Mumbai, 4th April 2020, pp. 146-150. (**Scopus Indexed**) E-ISBN:978-1-7281-2339-4
- 5) Rachana Dhannawat, Jhanvi Desai, Srishti Jena, Manavi Marnad, "Sum Tool : A hybrid pipeline approach to summarise various resources " **IEEE** Third International Conference on Secure Cyber Computing and Communications Organized by Dr B R Ambedkar National Institute of Technology (ICSCCC), Jalandhar, India, on 27th May 2023, pp. 19-24, doi: 10.1109/ICSCCC58608.2023.10176909.
- 6) Rachana Dhannawat, Pritikha K., Shruti Rane, Aqsa Soheb, "'PAYV - Payment Voice: A Platform using Voice Recognition to Enable Payment Transactions," **IEEE** 2024 Asia Pacific Conference on Innovation in Technology (APCIT), *MYSORE, India*, 26-27 July 2024, pp. 1-6, doi: 10.1109/APCIT62007.2024.10673442.
- 7) Rachana Dhannawat, Neha K. Saloni L. Shivani L. "A Smart System for Real-Time Monitoring of Fresh Agricultural Produce During Transportation", IEEE International Conference on Artificial Intelligence and Emerging Technologies (ICAIET-2025), presented at XIM University, Bhubaneswar, India, on August 28–30, 2025.
- 8) Arundhati Niwatkar, Rachana Dhannawat, Supriya Ingale, Harshada Mhetre, "Artificial Intelligence in the Metaverse: Challenges and Future Perspectives in Virtual and Augmented Reality", International conference on Responsible, Regulated and Risk aware AI (RRRAI-2026) at Bharti Vidyapeeth College of Engineering, Pune on 3-4 April 2026.
- 9) Dr. Rachana Dhannawat, Arundhati Niwatkar, Ashweeni Bharde, Vedangi Gholap, "Krushi: An Intelligent Multi-Actor Agricultural Commerce Platform with Negotiation Mechanism, Machine Learning–Based Crop Recommendation, Weather Intelligence, and AI-Driven News", IEEE International Conference on Intelligent Electronics & Computational System (IECS 2026), at VIT Bhopal University, Madhya Pradesh, India, on 17-18 July 2026
- 10) Dr. Rachana Dhannawat, Jyoti Avhad, Kiran Ghadge, Crystal Gorde, "FashionMind: AI Powered Personal Stylist with Virtual Try-On and Prompt Based Customization" IEEE International Conference on Intelligent Electronics & Computational System (IECS 2026), at VIT Bhopal University, Madhya Pradesh, India, on 17-18 July 2026

Papers Published in Journal

- 1) Rachana Dhannawat, Tanuja Sarode, H.B. Kekre, "Kekre's Wavelet Transform for Image Fusion and Comparison with Other Pixel Based Image Fusion Techniques" in International Journal of Computer Science and Information Security (IJCSIS), Vol. 10, No. 3, March 2012, page(s): 23- 31 ISSN-1947 5500.
- 2) Rachana Dhannawat, Tanuja Sarode, H.B. Kekre, "Implementation and Comparison of different Transform Techniques using Kekre's Wavelet Transform for Image Fusion", in International Journal of Computer Applications (IJCA), Vol. 44, No. 10, April 2012, page(s): 41- 48 ISSN 0975 - 8887.
- 3) Rachana Dhannawat, Tanuja Sarode, H.B. Kekre, "Kekre's Hybrid Wavelet Transform technique with DCT, Walsh, Hartely and Kekre's transform for Image Fusion" in

International Journal of Computer Engineering and Technology (IJ CET), Vol. 4, No. 1, Feb 2013, page(s): 195- 202 ISSN 0976 - 6367. **(Scopus Indexed)**

- 4) Pranali Parvekar, Rachana Dhannawat, "Survey On: Image Segmentation Using Region Based Algorithms", International Journal of Advance Research in Science and Engineering (IJARSE), Vol. 4, No. 1, March 2015, page(s): 958- 962 ISSN 2319-8354.
- 5) Rachana Dhannawat, Dr. Archana B. Patankar," Improvement to Blind Image Denoising by using Local Pixel Grouping with SVD", **Elsevier** Procedia Computer Science, ISSN: 1877-0509, Vol. 79, April 2016, page(s): 314- 320. **(Scopus Indexed and UGC Care)**
- 6) Rachana Dhannawat, Dr. Archana B. Patankar," Image Denoising by Using Local Pixel Grouping with PCA and SVD along with JBF and Median filters", International Journal of Applied Information Systems (IJ AIS), Proceedings on International Conference on Communication Computing and Virtualization ICCCV 2016(1):11-15, July 2016, ISSN: 2249-0868.
- 7) Geetha S., Rachana Dhannawat, "Predicting User Goal in Personalized Web Search & Improvement Using Categorization", in International Conference on Cloud Computing and Virtualization (ICCCV-2017), February 24,25. 2017, at Thakur College of Engineering & Technology published in IOSR Journal of Computer Engineering (IOSR-JCE), page(s): 1-4, ISSN: 2278-0661, **(UGC approved)**.
- 8) Priyanka Paradkar, Rachana Dhannawat, "Document Clustering Through Map Reducing- A Hureistic Approach", International Journal of Computer Science Trends and Technology (IJ CST), Vol. 5, No.3, May-June 2017, page(s): 67- 73.ISSN:2347-8578
- 9) Geetha S., Rachana Dhannawat," Data Mining Framework for Web Search Personalization", International Journal of Advanced Research in Computer Science, Vol. 8, No. 5, 2017, page(s): 2449- 2452 ISSN 0976-5697 **(UGC approved)**.
- 10) Rachana Dhannawat, Archana Patankar, "A Short Review on Image Restoration of Noisy and Blurred Images and comparison of state of art algorithms", International Journal of Advanced Research in Computer Science, Vol. 9, No. 5, Feb. 2018, page(s): 181-185, ISSN 0976-5697 **(UGC approved)**.
- 11) Rachana Dhannawat, Dr. Archana B. Patankar," A New Dictionary Learning Approach Using SVD with Kmeans and its appliance as regularization method for Image Deblurring using Non-Locally Centralized Sparse Representation", International Journal of Applied Engineering Research, ISSN 0973-4562 Vol. 14, No. 7, April 2019, page(s): 1672-1682 **(Ugc Approved)**.
- 12) Vidisha Ware, Nithya Menon, Prajakti Varute, Rachana Dhannawat "Cost effective optical mark recognition software for educational institutions" International Journal of Advance Research, Ideas and Innovations in Technology (ISSN: 2454-132X), Impact factor: 4.295, Volume 5, Issue 2, 2019, page(s): 1874-1877.
- 13) Rachana Dhannawat, Archana Patankar," A New Faster, Better Pixels Weighted Don't Care Filter for Image Denoising and Deblurring" International Journal of Advanced Trends in Computer Science and Engineering, Vol. 9, No. 2, April 2020, page(s): 2302-2309., ISSN: 2278-3091 **(Scopus Indexed and UGC Care)**
- 14) Shrutika Mahapatra, Sruthi Kannothe, Rohini Chiliveri, Rachana Dhannawat," Plant Leaf Classification and Disease Recognition using SVM, a Machine Learning Approach," Sustainable Humanosphere, ISSN: 1880 - 6503, March 2020, Vol. 16 No.1, page(s):1817-1825. **(Scopus Indexed)**

- 15) Sneha Sinha, Misbah Sirnaik, Priyanka Surnashe, Rachana Dhannawat, "DRISHTI A Vision to Help the Visually Impaired" Journal of Emerging Technologies and Innovative Research (JETIR), ISSN: 2349-5162, June 2021, Vol. 8, No. 6, page(s): b812: b819.
- 16) Mallisha Patkar, Asawari Pensalwar, Rachana Dhannawat, "Training CNN to categorize Pulmonary Radiological Imaging", International Journal of Innovative Research in Technology (IJIRT), ISSN: 2349-6002, June 2021, Vol. 8, No. 1, page(s):455-461.
- 17) Asiya Dalal, Urjita Mahatre, Tejal Thombare, Rachana Dhannawat, "Escape The Pain - A Deep Learning Approach for Assisting Depression", Journal of Emerging Technologies and Innovative Research (JETIR), ISSN: 2349-5162, June 2021, Vol. 8, No. 6, page(s): f23: f27.
- 18) Pooja Palkar, Aparna Patil, Jagruti, Rachana Dhannawat, "Colorization of Black and White Images using Deep Learning", Journal of Emerging Technologies and Innovative Research (JETIR), ISSN: 2349-5162, May 2022, Vol. 9, No. 5, page(s): c56: c59.
- 19) Ritika Sharma, Pooja Vichare, Rachana Dhannawat, "Diabetic Retinopathy Detection Using A Hybrid Model Approach in Deep Learning (ResNet50 + CapsNet)", International Journal of Creative Research Thoughts (IJCRT), ISSN: 2320-2882, May 2022, Vol. 10, No. 5, page(s): h279-h282.
- 20) Sanskriti Kushik, Irit Kushwaha, Rachana Dhannawat, "Copyright Protection Using Block chain", International Journal of Innovative Research in Engineering, Vol. 4, No. 3, May 2023, PP: 533-536, ISSN: 2582-8746.
- 21) Rachana Dhannawat, Archana Patankar, "Applications of Kekre's Wavelet, LPG_SVD_ST_W, LPG_PCA_ST_W, Don't Care Filter for Blind Image Restoration of Corona CT, Fingerprint and Vegetation Images" International Journal of Innovative Research in Technology (IJIRT), Sep. 2023, Vol. 10, No. 4, page(s):18-22. ISSN: 2349-6002.
- 22) Akshata Chawan, Shruti Joshi, Bipasha Bhat, Rachana Dhannawat, "CarBook: Decentralized Ride-Sharing System using Blockchain", International Research Journal of Engineering and Technology (IRJET), May 2024, Vol. 11, No. 5, page(s):1229-1233, e-ISSN: 2395-0056
- 23) Pooja D Begte, Bhavana Lilaka, Aayushi Pandit, Dr. Rachana Dhannawat, "Real Time Detection of Fake Instagram Accounts using Selenium Automation", International Journal of Creative Research Thoughts (IJCRT), Vol. 12., No.5, May 2024, page(s):f809-f814, ISSN: 2320-2882 (UGC Approved)
- 24) Rachana Dhannawat, Chanchal Z., Roshni C., Kunjal W., Samrudhi C., "Smart Waste Management using IoT", International Research Journal of Engineering and Technology (IRJET), ISO certified Journal, Volume: 11 Issue: 07 | July 2024, pages 291-295, e-ISSN: 2395-0056
- 25) Rachana Dhannawat, Shreya L., Sameera M., Pranali S., "IOT-Based Soil Monitoring and Integrated Pest and Disease Detection System", International Journal of Creative Research Thoughts (IJCRT), Vol. 13., No.5, May 2025, page(s):f234-f246, ISSN: 2320-2882 (UGC Approved)
- 26) Rachana Dhannawat, Harshali Patil, S.S. Sivani, "StudyBuddy - Intelligent Study Environment for Monitoring and Enhancing Child Safety", International Journal of Creative

Research Thoughts (IJCRT), Vol. 13., No.6, June 2025, page(s): e914-e922, ISSN: 2320-2882 (UGC Approved)

- 27) Dr. Rachana Dhannawat, Smruti Sawant, Ritika Sawant, Shivanshi,” AI Based Agriculture Optimization”, International Journal of Innovative Science and Research Technology, Volume 11, Issue 4, April – 2026, page(s): 4817-4822, ISSN No: -2456-2165
- 28) Sneha Padhy, Akshada Pawar, Sneha Urakade, Dr. Rachana Dhannawat,” Hybrid AO–GA Metaheuristic for Hyperparameter Optimization of Convolutional Neural Networks”, International Journal of Creative Research Thoughts (IJCRT), Volume 14, Issue 6 June 2026, page(s): a471- a478, ISSN: 2320-2882 (UGC Approved)
- 29) Meghna Pawar, Shravani Patil, Saloni Sawant, Arundhati Niwatkar, Rachana Dhanawat, “Feminova – New Era of Women’s Health”, International Journal of Advance Research, Ideas and Innovations in Technology, Volume 12, Issue 2 - V12I2-1259 ,April 2026, page(s): 272-278, ISSN: 2454-132X

Book chapter

- 1) Rachana Dhannawat, Dr. Archana B. Patankar,” New fast and efficient Techniques for Image Denoising using VQ, PCA, SVD, Soft Thresholding and Wiener Filter”, ICCCMMLA August 2019, Advances in Cybernetics, Cognition, and Machine Learning for Communication Technologies, Lecture Notes in Electrical Engineering, Vol. 643, **Springer**, Singapore, April 2020, pp. 35-47. (**Scopus Indexed and UGC Care**) ISBN 978-981-15-1632-0
- 2) Dr. Rachana Dhannawat, “Artificial Intelligence to solve the problems in Society: Survey, Opportunities, and Challenges” in Society and Research: Exploring New Directions, pages:33-38, Oct. 2025, ISBN: 978-93-91199-91-3.

Conferences and workshops attended

1. ISTE approved **two weeks** seminar on “Integrating security and software Engineering” in D.J. Sanghavi college of Engineering Vile parle from 9/6/2008 to 20/6/2008.
2. ISTE approved **two weeks** seminar on “Modern trends in communication Engineering” in Thakur engineering college Kandivali from 8/12/2008 to 19/12/2008.
3. ISTE approved **one week** STTP on “Neural network and fuzzy logic” on 4/7/10 to 8/7/10
4. ISTE approved **two weeks** STTP on “Contemporaneous Pedagogy for Trainer Empowerment”, in Thadomal Shahani Engineering College, Bandra (E) in November 2011.
5. **Two weeks** Workshop on “Database Management Systems “, by IIT at L.R. Tiwari Engineering college , Mira road, in May 2013.
6. **One week** workshop on “Effective teaching learning strategies” at IIT Mumbai, in June 2013.
7. **One week** Orientation Course for Program Officer of NSS from 23/10/2013 to 29/10/2013 at NSS Empanelled training Institute Ahmednagar.

8. **One week** workshop on “Advance satellite Image Processing” at IIT Mumbai, in Feb. 2014.
9. **Two weeks** Workshop on “Computer Programming”, by IIT Mumbai, at L.R. Tiwari Engineering college, Mira road, in May-June 2014.
10. **One week** STTP on “Recent Trends in Cloud Computing” at Usha Mittal Institute of Technology” in Nov. 2015.
11. **Two Weeks** equivalent FDP on “Foundation Program in ICT for education” by IIT Mumbai from 13/9/18 to 18/10/18 at remote center Vidyavardini college of Engineering Vasai.
12. **Two Weeks** equivalent FDP on “Pedagogy for Online and Blender Teaching- Learning Process” by IIT Mumbai from 30/10/18 to 13/12/18 at remote center Vidyavardini college of Engineering Vasai.
13. **One Week** online FDP on “ Security Issues & Role of Cryptography in Communication” from 22/6/2020 to 26/2/2020 at Usha Mittal Institute of Technology, SNDT University.
14. Online workshop on “Machine Learning in Computer Vision Applications” on 12/5/2020 - 13/5/2020 organized by Department of Electronics & Communication Engineering, Sri Venkateswara College of Engineering, Sriperumbudur, Tamilnadu.
15. **ISTE approved one week** online FDP on “ Digital Content Development for Effective and Efficient Teaching” during 27-7-2020 to 1-8-2020 organized by Sipna College of Engineering and Technology, Amravati.
16. **ISTE approved one week** online FDP on “Machine Learning with R” during 14-6-21 to 18-6-21 by National Institute of Technical Teacher’s Training and Research (NITTR), Kolkata, by Prof. Chandan Chakraborty, (ICT071).
17. **ISTE approved one week** online FDP on “Natural Language Processing with Google AI and Dialogflow and Its Applications” from 21-6-2021 to 28-6-2021 at UMIT, SNDT University.
18. **One week** FDP on “AI and Data Science – The future of Tomorrow” from 29-7-2021 to 31-7-2021 and 5-8-2021 to 7- 8-2021 at MCT’s Rajiv Gandhi Institute of Technology, Mumbai [Online].
19. **ISTE approved one week** online STTP on “Research & Development to Intellectual Property Rights” from 22-5-2023 to 26-5-2023 by Bajaj Institute of Technology, Wardha. (Online mode)
20. **AICTE one week** online STTP on “Inculcating Universal Human values in Technical Education” organized by AICTE from 6-11-2023 to 10-11-2023 (Online)
21. **AICTE Sponsored one week** ATAL FDP on “AI in Supply Chain Management of Agriculture Produce” at Thadomal Shahani Engineering College, Bandra from 8-1-2024 to 13-1-2024
22. **Drone Technology** workshop at UMIT from 11/11/2024 to 13/11/2024.
23. **One-week** STTP on UHV -II organized by AICTE from 3/6/2024 to 8/6/2024
24. **ISTE Approved 1-week** STTP on “Full stack development and Java programming” at Thadomal Shahani Engineering College, Bandra from 7-7-2025 to 12-7-2025.

(Dr. Rachana Avinash Dhannawat)