

Summary

A visionary academic leader with over 28 years of diverse experience across teaching, research, industry and administration. Proven track record of academic excellence, curriculum development, institutional planning, and stakeholder engagement. Demonstrated ability to lead departments, build interdisciplinary collaborations, and drive quality assurance through NBA and NAAC accreditation. Skilled in strategic planning, capacity building, faculty mentoring, and implementing outcome-based education models. Committed to fostering a culture of innovation, inclusivity, and academic rigor.

Education

- CSRE, Indian Institute of Technology, Mumbai, India, Ph.D. in “PolSAR Image Classification for Various Land-Cover Features”, 2007-2013
- University of Mumbai, India, M.E. Electrical (Control System), 2002-2005
- University of Mumbai, B.E. Electronics, 1992-1994
- Government Polytechnic Bandra, Mumbai, India, Diploma in Industrial Electronics, 1989- 1991

Key Research Interest

- Remote Sensing (Image Classification)
- Digital Image Processing

Career Highlights

- **Total experience:** Twenty-Eight Years Four Months
- **Teaching experience:** Twenty-One Years
- **Research experience:** Seventeen Years in the field of PolSAR Image Classification
- **Industry experience:** Seven Years Seven Months
- **Total Publications:** Eighty-eight ([Appendix A](#))
- Demonstrated academic leadership as Head of Department in two reputed institutions, leading large teams of faculty and staff.
- Visionary leader in planning and executing academic strategies aligned with institutional goals.
- Successfully led NBA accreditation and NAAC preparations through detailed documentation and department-wide coordination.
- Fostered collaborations with ISRO and other leading research bodies for institutional growth and visibility.
- Initiated interdisciplinary research programs and established labs that support advanced learning and innovation.
- Received travel grant of 750 \$, 1600\$ and \$3270 from IEEE GRSS to attend and present paper in IGARSS 2011, Vancouver, Canada, IGARSS 2019, Yokohama, Japan

and IGARSS 2023, Pasadena, California respectively

- Organized over sixty Short Term Training Programs (STTP) / Workshops / Faculty Development Programs (FDP) / Conferences / Symposiums / Webinars ([Appendix B](#))
- Over Forty STTPs / Workshops / FDPs / Conferences / Symposiums / Webinars are attended ([Appendix C](#))
- Resource person for various expert talks /FDPs / STTPs / IEEE Skill and Knowledge Enhancement Program (SKEP) / Conferences ([Appendix D](#))
- Developed lab material for six courses at undergraduate and graduate level ([Appendix D](#))
- Member of Syllabus committee at Goa and Mumbai University. Set syllabus for 15 courses at undergraduate and graduate level ([Appendix E](#))
- Collaborated with various reputed institutes for research ([Appendix F](#))
- Developed E-contents (videos) for two courses: Operating Systems and Image Processing
- NBA Auditor
- Mentored faculty and students, guiding over 100 UG/PG projects and 1 PhD student, with a focus on academic excellence and applied research.

Work Experience

- Professor, Head of Electronics & Telecommunication Engineering, Vidyalankar Institute of Technology (VIT), Mumbai, India (Nov. 2022- May 2025)
- Professor, Head of Electronics & Telecommunication Engineering, Don Bosco College of Engineering (DBCE), Goa, India (July 2018- Nov. 2022) (**Approved Post**)
- Associate Professor, Information Technology Department, Vidyalankar Institute of Technology (VIT), Mumbai, India (Jan. 2017-June 2018)
- Associate Professor, Department of Electronics Engineering, Vidyalankar Institute of Technology, Mumbai, India (July 2014-Dec. 2018)
- Assistant Professor, Department of Information Technology, Thakur College of Science and Commerce (TCSC), Mumbai, India (Aug.2004-July 2014) (**Approved Post**)
- Software Engineer, Sparsh Management Information Consultancy, Mumbai, India (Dec. 1999-April 2004)
- Technician, National Film Development Corporation (NFDC), Mumbai, India (Sept 1995- 31 Dec 1998)

Sponsored Research Projects ([Appendix E](#))

1. "Development of Machine Learning Tools for Speckle Reduction and Urban Applications" Duration: 4 Years (2017-2021), L & S band Airborne SAR RA, Sponsored by Space Application Centre, Indian Space Research Organization (ISRO)
Funds: Rs. 2600000/-
2. "Regression Based Crop Yield Estimation Model". Duration: 01 Year (2019-2020), Sponsored by University of Mumbai.
3. Contributed in "Development of land parameter retrieval techniques and tools", Duration:
four years (2011-2014), Sponsored by ISRO during PhD

Courses Taught

- Digital Image Processing (Recently Taught)
- Parallel Processing
- Fundamentals of Digital Computing
- Geographic Information Systems
- Software Testing
- Speech Recognition
- Data Mining
- Multimedia
- Computer Organization
- Computer Graphics
- Database Management System
- Digital Computer Fundamentals
- Digital System Design
- Operating Systems

Professional Society Roles

- Senior Member, IEEE
- Member, IEEE WIE
- Member of IEEE Geoscience and Remote Sensing Society
- Life Member of Computer Society of India (CSI)
- Life Member of Indian Society of Remote Sensing (ISRS)

Reviewer

International Journals:

1. IEEE Transaction on Geoscience and Remote Sensing
2. Geocarto International
3. IEEE JSTAR
4. IETE Technical Review (Taylor and Francis)
5. Journal of Applied Remote Sensing (JARS)
6. International journal of recent development in engineering and technology (IJRDET)
7. Public Science Framework
8. Springerplus
9. International Journal of Innovative research in advanced engineering (IJIRAE)
10. International Journal of Remote Sensing Applications (IJRSA)
11. International Journal of Emerging Technology and Advanced Engineering
12. Scientific Online
13. Asian Journal of Geoinformatics
14. Journal of Intelligent Systems
15. Journal of Remote Sensing Technology, Bowen Publishing Co., Ltd (JRST)

International/National Conferences:

1. NCATM 2017
2. CSCITA 2017
3. ICAC3 2019
4. ICAC3 2015
5. RACEM 2015, 2016, 2017
6. ICRTITCS-11, ICRTITCS-12
7. Tensymp2022 (Technical Chair: Image/Video and Signal Processing)

References

Prof. Krishna Mohan Buddhiraju Centre of Studies in Resources Engineering,
Indian Institute of Technology, Bombay, Powai, Mumbai - 400076, INDIA.
Tel: +91-22-2576-7684 (direct), +91-22-
2576-4676 (lab.)
Fax: +91-22-2572-3190 (Departmental),
+91-22-2572-3480 (Institute)
Email: bkmohan@csre.iitb.ac.in

Shiv Mohan, PhD, Scientist

ISRO (retired),
IEEE GRSS Liaison for India Chair, GRSS Gujrat chapter
Visiting faculty, CEPT University, Gujarat, and Nirma University, Ph. +91-97-1212 8524,
Email: shivmohan.isro@gmail.com

Anup Kumar Das, PhD, Scientist / Engineer SG

Advanced Technique Development Division ATG | EPSA
Space Applications Centre | ISRO | Dept. of Space | Govt. of India Ahmedabad -
380015 (Gujarat) Ph:
+91-79-2691-4105 (O), 079-
26821445 (R) Fax: +91-79-2691 5825
Email: anup@sac.isro.gov.in

Dr. Neena Panandikar

Principal, Don Bosco College of Engineering, Goa
Mobile: +91 9823625216
Email: principal@dbcegoa.ac.in

Appendix A

List of publications in the related field

- Total no of papers: 91
- Scopus indexed: 46
- Web of Science: 35
- Number of citations: 501

ORCID ID: <https://orcid.org/0000-0002-0225-0498>

Scopus Author ID: 26424462800

Web of Science ResearcherID: Q-8870-2017

Google Scholar Link: <https://scholar.google.co.in/citations?user=HCBDBWbAAAAAJ&hl=en>

Peer-reviewed Publications in Journals

1. **Varsha Turkar**, R. Deo, Y. S. Rao, S. Mohan, A. Das, "Classification Accuracy of Multi-frequency and Multi-Polarization SAR Images for Various Land Covers", IEEE Journal of Selected Topics in Applied Earth Observations & Remote Sensing, Vol.5, Issue3, pp. 936-941, 2012, DOI: 10.1109/JSTARS.2012.2192915, EID: 2-s2.0-8486352587 (Scopus)
2. Sushopti Gawade and **Varsha Turkar**, "Analysis of Digital Media Compatibility with Farmers in Maharashtra and Recommendation of Service Provider Design Framework 'E-Krishimitra'", International Journal of Applied Agricultural Research, ISSN 0973-2683 Volume 12, Number 1, pp. 77-86, 2017 (UGC CARE)
3. Sushopti Gawade and **Varsha Turkar**, "A Role and Potential of E-Krishimitra Tool In Usability Improvement of Agricultural Domain", International Journal of Computer Application, Vol.178, No.9, May 2019, Doi: 0.5120/ijca2019918798 (Peer Reviewed)
4. Prasad Kulkarni, B. G. Hogade, Vidula Kulkarni, **Varsha Turkar**, "ASIC Design of Radix-2,8- Point FFT Processor", Journal of Scientific & Industrial Research Vol. 80, pp. 230-238, ISSN: 0975-1084 (Online); 0022-4456 (Print), 2021 (SCI)
5. **Varsha Turkar**, Juhi Checker, Shaunak De, Gulab Singh, "Impact of G4U and 7-component target decomposition on PolSAR image semantic segmentation", Advances in Space Research, 2022, ISSN 0273-1177, <https://doi.org/10.1016/j.asr.2022.05.034> (Scopus)
6. Rahul Kotru, **Varsha Turkar**, Shreyas Simu, Shaunak De, Musab Shaikh, Satyaswarup Banerjee, Gulab Singh, Anup Das, "Development of a generalized model to classify various land covers for ALOS-2 L-Band images using semantic segmentation", Advances in Space Research, 2022, ISSN 0273-1177, <https://doi.org/10.1016/j.asr.2022.07.078> (Scopus)
7. Akhil Masurkar, Rohin Daruwala, **Varsha Turkar**, "Multi-Frequency Analysis of Fully Polarimetric Speckle Filter Based on Morphology Using Visual Quality Indices & Support Vector Machine", International Journal on Recent and Innovation Trends in Computing and Communication ISSN: 2321-8169, October 2023, Volume: 11 Issue: 11 (Scopus)
8. Akhil Masurkar, Rohin Daruwala, **Varsha Turkar**, "Multi-frequency analysis of fully polarimetric speckle filter based on image morphology for Land Use classification", Journal of the Indian Society of Remote Sensing, 52, 2637–2661 (2024), <https://doi.org/10.1007/s12524-024-02039-1>, 9 Nov. 2024. (Scopus)

9. Girish Gidaye, Abhay Barage, Nirmayee Dighe, Kadria Ezzine, **Varsha Turkar**, Gajanan Nagare, "Speech signals as biomarkers: using glottal features for non-invasive COVID-19 testing", *International Journal of Biomedical Engineering and Technology*, January 6, 2025, pp 65-85, Doi:[10.1504/IJBET.2025.143755](https://doi.org/10.1504/IJBET.2025.143755). (SCI)
10. Samay Shetty, Sayan Panja, Jose Akkarapatty, Soham Pal, Aarya Shinde, Avinash Dhiran, Bhakti Talele, Sai Gurav, **Varsha Turkar**, Yogesh Agarwadkar, Gulab Singh, "MATSAR: A Comprehensive Machine Learning Approach for PolSAR Data Processing," *International Journal of Computer Applications*, vol. 187, no. 3, pp. 23–29, May 2025, Doi:10.5120/ijca2025924824. (Peer Reviewed)
11. R. Godinho, S. Naik, N. Joshi, **Varsha Turkar**, and D. Rodrigues, "EduInfoGoa: A Mobile-based Solution for Accessing Institutional Information in Goa," *International Journal of Computer Applications*, vol. 187, no. 3, pp. 48–55, May 2025, Doi: 10.5120/ijca2025924831. (Peer Reviewed)
12. B. Pavan Kalyan, Siddhant Kunde, Shreyas Simu, **Varsha Turkar**, Vaishab Jalmi, "A Framework for Fish Species Identification, Freshness Assessment, and Formalin Detection", *International Journal of Computer Applications*, vol. 187, no. 3, pp. 40–47, May 2025, Doi=10.5120/ijca2025924830. (Peer Reviewed)
13. Nitin Pal, Girish Gidaye, **Varsha Turkar**, Uma Jaishankar, "Multilingual voice disorder classification using Glottal flow and MFCC-based acoustic analysis", *International Journal of Biomedical Engineering and Technology*, Accepted for publication May 2025. (SCI)
14. Shreyas Simu, Pratik Mhatre, and **Varsha Turkar**, "Case Studies in Smart IoT for Air Pollution Control," in *Smart IoT for Sustainable Development*, 1st ed., Boca Raton, FL, USA: CRC Press, Taylor & Francis, 2025, Chapter 2, ISBN 9781032887692, October 1, 2025 (Book Chapter)
15. Saurabh Mehta and **Varsha Turkar**, "Leadership and Governance for Academic Excellence: Policies and Practices", in *National Education Policy (NEP 2020)*, G. Japee and P. Oza, Eds. New Delhi, India: Bookends Publishing, 2025, Chapter 14, pp. 164-178 (Book Chapter)
16. Saurabh Mehta and **Varsha Turkar**, "R&D Management and Strategy Framework in Higher Education", in *National Education Policy (NEP 2020)*, G. Japee and P. Oza, Eds. New Delhi, India: Bookends Publishing, 2025, Chapter 15, PP 179-193 (Book Chapter)
17. Prasad Kulkarni, **Varsha Turkar**, Poorva Waingankar, Vidula Kulkarni, "Impact of Accreditation on Indian Educational System: A Teacher Perspective", *International Journal of Environmental Sciences*, ISSN: 2229-7359 Vol. 11 No. 17s, July 2025. (SCOPUS)

Conference Proceedings

18. **Varsha Turkar**, "The Effective Methods for Image Transforms to Achieve Better Compression", In the proceedings of National Conference NCACCN 2007, Organized by Padmashree Dr. Vithalrao Vikhe Patil College of Engineering, Ahmednagar, March 9-10, 2007
19. **Varsha Turkar** and Y. S. Rao, "Classification of polarimetric synthetic aperture radar images from SIR-C and ALOS PALSAR", *International Conference on Recent Advances in Microwave Theory and Applications*, pp. 438-440, 2008, DOI: 10.1109/AMTA.2008.4763087, EID: 2-s2.0- 63249088499

20. Y. S. Rao and **Varsha Turkar**, "Classification of Polarimetric SAR data over wet and arid regions of India", IEEE Geoscience and Remote Sensing Symposium IGARSS 2009, Cape town, July 13- 17, Vol-III, page 892-895, 2009, DOI: 10.1109/IGARSS.2009.5417915, EID: 2-s2.0-77950924197
21. **Varsha Turkar**, "The effects of different filters on classification accuracy of Polarimetric SAR data acquired from SIR-C, and ALOS PALSAR", 2nd IEEE International Conference on Advances in Computer Vision and Information Technology (ACVIT 2009), Aurangabad (MS), India, Dec. 16-19, 2009, ISBN: 9789380026954
22. **Varsha Turkar**, "Backscattering Properties of Various Features Observed by SIR-C, ENVISAT ASAR and ALOS PALSAR", Proceedings of NCICT-09, National conference, NMIMS University, March 6-7, 2009
23. **Varsha Turkar**, "Polarimetric SAR Image Classification by using Artificial Neural Network", ICWET '10: Proceedings of the International Conference and Workshop on Emerging Trends in Technology, pp. 48–52, ACM Digital Library, 2010, DOI: 10.1145/1741906.1741915, EID: 2- s2.0-77952381587
24. **Varsha Turkar** and Y. S. Rao, "Analysis of Multi-Frequency Polarimetric SAR Data Using Different Classification Techniques", International Journal of Computer Applications, Proceedings of International Conference on Technology Systems and Management, Number 14 - Article 8, pp. 53-60, 2011
25. **Varsha Turkar** and Y. S. Rao, "Applying Coherent and Incoherent Target Decomposition Techniques to Polarimetric SAR Data", International Journal of Computer Applications, Proceedings of International Conference on Technology Systems and Management, Number 3-Article 5, 2011
26. **Varsha Turkar** and Y. S. Rao Y.S., "Effect of Different Target Decomposition Techniques on Classification Accuracy for Polarimetric SAR Data", Technology Systems and Management. Communications in Computer and Information Science (Book), vol. 145. Springer, Berlin, Heidelberg. 2011, DOI: 10.1007/978-3-642-20209- 4_19, EID: 2-s2.0-79953233337
27. **Varsha Turkar**, Rinki Deo, S. Hariharan, Y. S. Rao, "Comparison of classification accuracy between fully polarimetric and dual-polarimetric SAR images", IEEE International Geoscience and Remote Sensing Symposium, IGARSS-2011, pp. 440-443, DOI: 10.1109/IGARSS.2011.6049159, EID: 2-s2.0-80955144987
28. **Varsha Turkar** and Y. S. Rao, "Analysis of multi-frequency SIR-C data over India", ICWET '11: Proceedings of the International Conference & Workshop on Emerging Trends in Technology, Pages 96–101, 2011, DOI: 10.1145/1980022.1980042, EID: 2-s2.0-79958724216
29. Rupali Patil, Prajakta Hatkar, **Varsha Turkar**, "Supervised Classification of PolSAR Images using Maximum Likelihood using Wishart Distribution", Proceedings of ICRTITCS-2011, Organized by Thakur college of Science and Commerce, 9-10 Dec 2011
30. Priya Shetty, **Varsha Turkar**, "Melanoma Decision Support System for Dermatologist", International Journal of Computer Application, Proceedings of International Conference on Recent Trends in Information Technology and Computer Science (ICRTITCS-2011) icrtitcs (2):28-30, March 2012
31. Anand Upadhyay, S. K. Singh, **Varsha Turkar**, Omkar Singh, "Proposed Method for Classification of Learning Disable Students using Artificial Neural Network and Decision Tree", Proceedings of National Conference on Emerging Trends: Innovations and Challenges in IT, 19-20, April 2013

32. Anand Upadhyay, S. K. Singh, **Varsha Turkar**, Omkar Singh, "Classification of Learning Disable Students using Artificial Neural Network", International Journal of Medical and Computer Science Vol.1, Issue 1, PP. 1-4, August 2013
33. **Varsha Turkar**, Shaunak De, Y. S. Rao, Avik Bhattacharya, Sanjay Shitole, Anup Kumar Das, "Comparative analysis of classification accuracy for RISAT-1 compact polarimetric data for various land-covers" IEEE Geoscience and Remote Sensing Symposium (IGARSS), International conference, Melbourne, vol., no., pp.3586, 3589, 2013, DOI: 10.1109/IGARSS.2013.6723605, EID: 2-s2.0-84894287411
34. **Varsha Turkar**, Shaunak De, Y. S. Rao, Rinki Deo, G. G. Ponnurangam, Anup Das, "Classification of RISAT-1 Hybrid Polarimetric Data for Various Land Features", Synthetic Aperture Radar (APSAR-2013), Tsukuba, Japan, vol., no., pp.494,497, 23-27 Sept. 2013, EID: 2- s2.0-84894136449
35. **Varsha Turkar**, Rinki Deo, Y. S. Rao, "Fusion of Multi-frequency Polarimetric SAR and LISS-3 Optical Data for Classification of Various Land Covers", EUSAR 2014, 10th European Conference on Synthetic Aperture Radar, Berlin, Germany, pp.1-4, 3-5 June 2014, EID: 2-s2.0- 84991581693
36. Anand Upadhyay, Santosh Singh and **Varsha Turkar**, "Classification of IRS LISS-III image using Artificial Neural Network", IJPRET, Proceedings of ICETCSE, Organized by BNCE, Pusad (M.S), India, Volume 2(8):100-108, 2014
37. Jeenal Shah, Sunil Surve, **Varsha Turkar**, "Pancreatic Tumour Detection Using Image Processing", Elsevier Proceedings ICAC3'15, International Conference on Advances in Computing, Communication and Control, Organized by Fr. CRCE, April 2015, Procedia Computer Science 49 (2015) pp. 11 – 16, 2015, DOI: 10.1016/J.PROCS.2015.04.221, 2015 EID: 2-s2.0-84938924243
38. O. Kathe, **Varsha Turkar**, A. Jagtap and G. Gidaye, "Maze solving robot using image processing", IEEE Bombay Section Symposium (IBSS), Mumbai, pp. 1-5, 2015, DOI: 10.1109/IBSS.2015.7456635, EID: 2-s2.0-84969922414
39. P. Pawar, **Varsha Turkar** and P. Patil, "Cucumber disease detection using artificial neural network," International Conference on Inventive Computation Technologies (ICICT), 2016, pp. 1-5, 2016, DOI: 10.1109/INVENTIVE.2016.7830151, EID: 2-s2.0-85021934895
40. Advait Ambeskar, **Varsha Turkar**, Anup Bondre, Hetal Gosavi, "Path finding Robot Using Image Processing", International Conference on Inventive Computation Technologies (ICICT-2016), Coimbatore, pp. 1-6, 2016, DOI: 10.1109/INVENTIVE.2016.7830181, EID: 2-s2.0-85022328468
41. **Varsha Turkar**, Y. S. Rao and A. Das, "Polarisation orientation compensation for detection of oriented settlements in PolSAR image," IEEE Bombay Section Symposium (IBSS), Baramati, pp. 1-5, 2016, DOI: 10.1109/IBSS.2016.7940202, EID: 2-s2.0-85022329506
42. **Varsha Turkar**, Y. S. Rao and A. Das, "Land cover classification for various features using optimum Touzi decomposition parameters," 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Fort Worth, TX, pp. 4542-4545, 2017, DOI: 10.1109/IGARSS.2017.8128012, EID: 2-s2.0-85041844694
43. Sonaali Borkar, **Varsha Turkar**, Yatin Borkar, "The essence of traditional teaching methodology over web-based learning", 38th Asian Conference on Remote Sensing (ACRS- 2017), October 23-27, 2017, New Delhi, EID: 2-s2.0-85047376715
44. Heena Kaldane, **Varsha Turkar**, Mandar Soni, Y.S. Rao, "Land Cover change detection using PolSAR Images", 38th Asian Conference on Remote Sensing (ACRS-2017), October

- 23-27, 2017, New Delhi, EID: 2-s2.0-85047415381
45. Sushopti Gawade, **Varsha Turkar**, "Location based solution for Agriculture Domain using GIS", 38th Asian Conference on Remote Sensing (ACRS-2017), October 23-27, 2017, New Delhi
 46. Harshula Tulapurkar, B. K. Mohan, **Varsha Turkar**, "Comparative Analysis of Use of Curvelet and Wavelet for Robust Invisible Watermarking for Satellite Images", 38th Asian Conference on Remote Sensing (ACRS-2017), October 23-27, 2017, New Delhi
 47. Komal Raikar, Sushopti Gawade, **Varsha Turkar**, "Usability Improvement with Crop Disease Management as a Service", International Conference Recent Innovations in Signal-Processing and Embedded-Systems- "RISE", Bhopal, pp. 577-582, 2017, DOI: 10.1109/RISE.2017.8378221, EID: 2-s2.0-85049810450
 48. Samruddhi Khandare, Sushopti Gawade, **Varsha Turkar**, "Design and Development of E- Farm with S.C.H.E.M.E.", International Conference Recent Innovations in Signal-Processing and Embedded-Systems- "RISE", Bhopal, pp. 593-600, 2017, DOI: 10.1109/RISE.2017.8378223, EID: 2-s2.0-85049809689
 49. Samruddhi Khandare, Sushopti Gawade, **Varsha Turkar**, "Survey on website evaluation tools", International Conference on Recent Innovations in Signal Processing and Embedded Systems (RISE), Bhopal, Pages 608-615, 2017, DOI: 10.1109/RISE.2017.8378225, EID: 2-s2.0- 85049806749
 50. **Varsha Turkar**, Sangita Chaudhari, Avila Naik, "Geographic Information System and Remote Sensing Education in India – Issues & Solutions", IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Japan,2019, DOI: 10.1109/IGARSS.2019.8898348, EID: 2-s2.0- 85077686906
 51. Harshula Tulapurkar, **Varsha Turkar**, B.K. Mohan, Yash Turkar, "Curvelet Based Watermarking of Multispectral Images and Its Effect on Classification Accuracy", URSI Asia-Pacific Radio Science Conference (APRASC-2019), India Habitat Centre, New Delhi, March 9-15, 2019, DOI: 10.23919/URSIAP-RASC.2019.8738393, EID: 2-s2.0-85068599563
 52. Heena Kaldane, **Varsha Turkar**, Shaunak De, Sanjay Shitole, Rinki Deo, "Land Cover Change Detection for Fully Polarimetric Sar Images", URSI Asia-Pacific Radio Science Conference (APRASC-2019), India Habitat Centre, New Delhi, March 9-15, 2019, DOI: 10.23919/URSIAP- RASC.2019.8738320, EID: 2-s2.0-85068621941
 53. Advait Ambekar, **Varsha Turkar**, Anup Bondre, Hetal Gosavi, "Intuitive solution for Robot Maze Problem using Image Processing", IEEE Bombay Section Signature Conference (IBSSC), IIT Bombay, Mumbai, July 26 to 28, 2019, DOI:10.1109/IBSSC47189.2019.8973106, EID: 2- s2.0-85084486398
 54. **Varsha Turkar**, Sanjay Shitole, Rinki Deo, Amruta Pokhare, "Speckle Noise Reduction of POLSAR data using Non-Parametric Technique", National Symposium on Innovations in Geospatial Technology for Sustainable Development with special emphasis on NER, Shillong, November 20-22, 2019
 55. Heena Kaldane, **Varsha Turkar**, Rinki Deo, Sanjay Shitole, "Land-Cover Change Detection Based on Polarimetric Decomposition for POLSAR Images", National Symposium on Innovations in Geospatial Technology for Sustainable Development with special emphasis on NER, Shillong, November 20-22, 2019
 56. Sushopti Gawade, **Varsha Turkar**, "e-Krishimitra: Novel Approach with Agriculture Services", National Symposium on Innovations in Geospatial Technology for Sustainable Development with special emphasis on NER, Shillong, November 20-22, 2019

57. Akhil Masurkar, Rohin Daruwala, **Varsha Turkar**, "A Novel approach of Removal of Salt and Pepper Noise Using Morphological Operations", National Symposium on Innovations in Geospatial Technology for Sustainable Development with special emphasis on NER, Shillong, November 20-22, 2019
58. **Varsha Turkar**, Shaunak De, Anup Das, Sanjay Shitole, Rinki Deo, Kaushik Patnaik, "The Effect of Hybrid Polarimetric Descriptors on Classification Accuracy of Various Land Cover Types", IGARSS 2020 - IEEE International Geoscience and Remote Sensing Symposium (Virtual), DOI: 10.1109/IGARSS39084.2020.9323548, 2020
59. A. Masurkar, R. Daruwala and **Varsha Turkar**, "A Novel Method to Remove Speckle from PolSAR Images using Morphological Operations," IEEE India Geoscience and Remote Sensing Symposium (InGARSS-2020), pp.126-129, DOI:10.1109/InGARSS48198.2020.9358974, 2020
60. V. Jain, S. Shitole, **Varsha Turkar** and A. Das, "Impact of DFT Based Speckle Reduction Filter on Classification Accuracy of Synthetic Aperture Radar Images," IEEE India Geoscience and Remote Sensing Symposium (InGARSS-2020), pp.54-57, DOI: 10.1109/InGARSS48198.2020.9358943, 2020
61. Shreyas Simu, **Varsha Turkar**, Rohit Martires, Vranda Asolkar, Swizel Monteiro, Vaylon Fernandes, Vassant Salgaonkar, "Air Pollution Prediction using Machine Learning," 2020 IEEE Bombay Section Signature Conference (IBSSC), 2020, pp. 231-236, DOI: 10.1109/IBSSC51096.2020.9332184.
62. Juhi Checker, Shaunak De, **Varsha Turkar**, Gulab Singh, "Performance Impact of Jp2 Compression on Semantic Segmentation of PolSAR Images" IEEE Geoscience and Remote Sensing Symposium IGARSS 2021, 11-16 July 2021
63. Rahul Kothru, Musab Shaikh, **Varsha Turkar**, Shreyas Simu, Satyaswarup Banerjee, Gulab Singh, "Semantic Segmentation of PolSAR Images for Various Land Cover Features" IEEE Geoscience and Remote Sensing Symposium IGARSS 2021, 11-16 July 2021
64. Abhishek Dhumvad, Saurabh Prabhu, Stanford Franson Da' Silva, Shreyas Simu, Priyanka Padiyar, **Varsha Turkar**, Vassant Salgaonkar, "Water Pollution Monitoring and Decision Support System," 3rd International Conference for Emerging Technology (INCET), 2022, pp. 1-6, doi: 10.1109/INCET54531.2022.9824110, 27-29 May 2022
65. Yash Turkar, Christo Aluckal, Yogesh Agarwadkar, Shaunak De, **Varsha Turkar**, "Generative- Network Based Multimedia Super-Resolution for UAV Remote Sensing", IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium, Kuala Lumpur, Malaysia, 2022, pp. 3995-3998, doi: 10.1109 / IGARSS46834.2022.9883497, 17-22 July 2022
66. **Varsha Turkar**, Sangita Chaudhari, "RESLearn: Comprehensive Mobile Application for Remote Sensing Learning", IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium, Kuala Lumpur, Malaysia, 2022, pp. 3995-3998, doi: 10.1109/IGARSS46834.2022.9883497, 17-22 July 2022
67. **Varsha Turkar**, Y. S. Rao and A. Das, "Impact of Using Circular Polarization Correlation Coefficient (CCC) Along with Target Decomposition to Classify Oriented Settlement," *IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium*, Pasadena, CA, USA, 2023, pp. 7487-7490, doi: 10.1109/IGARSS52108.2023.10283016, 16-21 July 2023
68. **Varsha Turkar**, Akhil Masurkar, Anup Das, Rohin Daruwala, "Development of Generalized Machine Learning Model to Classify PolSAR Data", *IGARSS 2023, 2023 IEEE*

- International Geoscience and Remote Sensing Symposium*, Pasedena, California, 2023
69. A. Masurkar, R. Daruwala, A. Mohite, S. Pathe, **Varsha Turkar** and A. Das, "Performance Evaluation of Optimization Functions for Neural Network Classifier Using Decomposed Polsar Images," *IGARSS 2024 - 2024 IEEE International Geoscience and Remote Sensing Symposium*, Athens, Greece, 2024, pp. 10126-10129
 70. A. Masurkar, R. Daruwala, S. Pathe, A. Mohite, **Varsha Turkar** and A. Das, "Performance Evaluation of Optimization Functions for Neural Network Classifier Using Decomposed Polsar Images for Mangrove Detection," *IGARSS 2024 - 2024 IEEE International Geoscience and Remote Sensing Symposium*, Athens, Greece, 2024, pp. 10315-10318
 71. A. Meshram, A. Nandanwar, A. Jadhav, S. Prabhughate and **Varsha Turkar**, "Conceptualization of "Food for U": A Mobile Application for Tourists," *IGARSS 2024 - 2024 IEEE International Geoscience and Remote Sensing Symposium*, Athens, Greece, 2024, pp. 3134-3137
 72. Vighnesh Budharapu, Shubham Bhuvad, Tushar Garje, **Varsha Turkar**, Mugdha Agarwadkar and Yogesh Agarwadkar, "Urban tree mapping and individual canopy demarcation for forest resource management using very high-resolution uav data", *InGARSS 2024*, Goa, India
 73. **Varsha Turkar**, Sayan Panja, Samay Shetty, Bhakti Talele, Avinash Dhiran, Yogesh Agarwadkar, Mugdha Agarwadkar and Rahul Kotru, "PolSARHub: A Large-scale Repository for POLSAR Data", *InGARSS 2024*, Goa, India
 74. T. Gadgil, **Varsha Turkar**, M. Agarwadkar and Y. Agarwadkar, "Framework for the Tree Inventory Management Tool Using Web GIS," *2024 IEEE India Geoscience and Remote Sensing Symposium (InGARSS)*, Goa, India, 2024, pp. 1-4, doi: 10.1109/InGARSS61818.2024.10984057
 75. A. Choudhary, **Varsha Turkar**, M. Agarwadkar, Y. Agarwadkar, A. Shinde and S. Gurav, "PolSARLearn - An Educational Platform for Microwave Remote Sensing," *2024 IEEE India Geoscience and Remote Sensing Symposium (InGARSS)*, Goa, India, 2024, pp. 1-4, doi: 10.1109/InGARSS61818.2024.10984184
 76. V. Budharapu, S. Bhuvad, T. Garje, **Varsha Turkar**, M. Agarwadkar and Y. Agarwadkar, "Urban Tree Mapping and Individual Canopy Demarcation for Forest Resource Management Using Very High-Resolution UAV Data," *2024 IEEE India Geoscience and Remote Sensing Symposium (InGARSS)*, Goa, India, 2024, pp. 1-4, doi: 10.1109/InGARSS61818.2024.10984067
 77. Priyanka Shrivastava, Mani Roja M. Edinburgh, **Varsha Turkar**, "Enhancing Land Classification Accuracy: A Comprehensive Study of Sentinel-1 and Sentinel- 2 Image Fusion", in the 5th International Conference on Intelligent Vision and Computing (ICIVC 2025) held at The ICFAI University, Dehradun during June 13 - 14, 2025

Conference Presentations

78. **Varsha Turkar**, "Comparative Study of 2D Transform for DIP", National Conference on Communication and Signal Processing, Organized by Thaodmal Shahani Engineering College, Bandra, Mumbai, April 12-13, 2007
79. **Varsha Turkar** and Y.S. Rao, "Supervised and Unsupervised Classification of PolSAR Images from SIR-C and ALOS-PALSAR Using PolSARPro", Geomatrix'09, CSRE, IIT, Bombay, Feb.28th to March 1st, 2009
80. **Varsha Turkar** and Y. S. Rao, "Classification of SIR-C and ALOS PALSAR data using

- Artificial Neural Network”, Geomatrix-11, Organized by CSRE, IIT, Bombay, Feb.26-27, 2011
81. **Varsha Turkar** and Y. S. Rao, “Classification of Polarimetric SAR data using Yamaguchi’s Polarization Orientation Compensation (POC) with decision tree classifier for urban area”, International Conference, Environmental Health 2013-Science and Policy to Protect Future Generations, Boston, USA, organized by Elsevier, March 3rd-6th 2013
 82. Sankalp Ghogale, Akshay Konde, Shubham Dahale, **Varsha Turkar**, “Change Detection in Urban Area using Satellite Images”, ICWET-2016, Organized by Thakur College of Engineering and Technology, Feb.26-27, 2016, pp.90-93
 83. Aarti Rane, Kiran Naik, **Varsha Turkar**, “Reading Assistance System for Visually Impaired Using Optical Character Recognition”, ICWET-2016, Organized by Thakur College of Engineering and Technology, Feb.26-27, 2016, pp.108-111
 84. **Varsha Turkar**, Y. S. Rao. Anup Das, “Classification of Terrain Using Different Decomposition Techniques Along with Circular Polarization Correlation Coefficient (CCC)”, International Workshop PolInSAR 2017, Organized by European Space Agency, ROME, 23-27 Jan. 2017
 85. Sourabh Karandikar, Oindrilla Chatterjee, **Varsha Turkar**, P Venkatachalam and Deepak Choksi, “Holistic approach for road network management in urban areas”, ASIA GIS Conference 2017, The University of Hong Kong, Hong Kong Special Administrative Region, China, 5-7 Jan. 2017
 86. Sourabh Karandikar, Oindrilla Chatterjee, **Varsha Turkar**, P Venkatachalam and Deepak Choksi, “Decoupling renewable energy growth from commodity cycle”, ASIA GIS Conference 2017, The University of Hong Kong, Hong Kong Special Administrative Region, China, 5-7 Jan. 2017
 87. Oindrilla Chatterjee, Sourabh Karandikar, **Varsha Turkar**, “Underground transportation and monitoring of freight in intra city networks”, ASIA GIS Conference 2017, The University of Hong Kong, Hong Kong Special Administrative Region, China, 5-7 Jan. 2017
 88. Advait Ambekar, **Varsha Turkar**, Anup Bondre, Hetal Gosavi, “Path Finding Algorithm for Robotic Systems using Image Processing”, 3rd International Conference on Computing, Communication, Control and Automation, Organized by IEEE Pune Section, 17th - 18th Aug 2017
 89. Sushopti Gawade and **Varsha Turkar**, “e-Krishimitra: Service Provider Tool”, 3rd International Conference on Computing, Communication, Control and Automation, Organized by IEEE Pune Section, 17th - 18th Aug 2017
 90. **Varsha Turkar**, Shaunak De, Anup Das, Sanjay Shitole, Rinki Deo, “Classification of RISAT-1 Data using SVM with Hybrid Polarimetric Descriptors”, International Conference on Innovations in Engineering, Technology and Sciences (ICIETS)-2018, organized by NIE Institute of Technology, No 50 (Part), Koorgalli, Mysore, India, Sept. 20-21, 2018
 91. **Varsha Turkar**, Sangita Chaudhari, Sonaali Borkar, “Impact of Online Teaching Learning Process on Engineering Students of India due to COVID-19 Lockdown”, ICAITR 2021, Organized by Vidyalkar Institute of Technology, Wadala, Mumbai, India, June 1, 2021

Appendix B

1. Organized STTPs/Workshops/FDPs/Conferences/Symposiums

1. International conference (ICRTITCS-11) at Thakur College of Science and Commerce (member of organizing committee), 2011
2. International conference (ICRTITCS-12) at Thakur College of Science and Commerce (member of organizing committee), 2012
3. National Symposium RACEM-2015 at VIT (member of organizing committee), 2015
4. International Conference RACEM-2016 at VIT (Co-Chair)
5. Second National Symposium RACEM-2017 at VIT (General-Chair)
6. Outreach Program of IEEE GRSS Bombay Chapter held at VMCC, IITB on 8, 9 June 2017 (member of organizing committee)
7. ISTE Approved STTP on Use of Open-Source Software in Research during 27 June to 1 July 2016 (Convener) at Vidyalkar Institute of Technology, Wadala, Mumbai
8. Innovations and Applications of Engineering Mathematics during 28 Nov. to 2 Dec. 2016 (Organizing committee member) at Vidyalkar Institute of Technology, Wadala, Mumbai
9. ISTE Approved one-week STTP on Innovative Teaching Tools and Methodologies for Engineering Faculty during 19 June to 23 June 2017 (Convener) at Vidyalkar Institute of Technology, Wadala, Mumbai
10. ISTE Approved one-week STTP on STTP on Open Data Science with IOT during 25 June to 30 June 2018 (Advisor)
11. 1-day Faculty Development Program on “ARM Cortex” at Don Bosco College of Engineering, Fatorda, Goa, on 29 Sept. 2018
12. Faculty Development Programme on Cognitive Skills, Design and Critical Thinking for the teaching faculties of Don Bosco College of Engineering on Friday, 29 December 2018
13. FDP on Ideation and IPR (Intellectual Property Rights) for the teaching faculties of Don Bosco College of Engineering on 06 Dec. 2018
14. Two days IEEE Skill and Knowledge Enhancement Program at Don Bosco College of Engineering, Fatorda, Goa, on 1 and 2 Feb. 2019
15. Convener of 2 days’ workshop on “Introduction to Robotics”, Hosted for eYantra, IIT Bombay on 11 and 12 January 2019
16. Certified (training) course on “Embedded Systems & IOT” (Eduvance, Mumbai) for Third Year and Final Year students from 2 to 12 January 2019
17. Three days hands on workshop on, “Drone Design and Aviation”, in collaboration with Eduvance and Drona Aviation from 7 to 9 February 2020
18. A two-day hands-on workshop under IETE, on “Node JS”, for the T.E ETC student, on 28 and 29 February 2019
19. A two-day hands-on workshop under IETE, on “Analog IC Design”, for the T.E ETC student (50%), on 13 and 14 March 2019

20. A two-day hands-on workshop on, "Digital VLSI Design", for the T.E ETC student (50%), on 13 and 14 March 2019
21. Workshop on "Introduction to Python Programming", for FE Students on 28-29 Feb and 13-14 March 2020
22. Four days online workshop on, "Aerial Robotics: Designing for Beginners", in association with InfiCorridor Solutions Pvt. Ltd. from 16 June to 19 June 2020
23. One-day event on "Women Empowering Women", at Ramrao Adik Institute of Technology, New Mumbai, on 8th March 2019 (Convener)
24. One-week online ISTE approved Faculty Development Programme (FDP) on "Recent Trends in RF and Microelectronics", in collaboration with National Institute of Technology, Goa from August 31- September 4, 2020 (Convener)
25. A five-day online short-term training programme titled "5G Wireless Communication and Antenna Design using MATLAB and Simulink" was organized on 11th, 12th, 17th, 18, and 25 August 2020 (Convener)
26. Advisory Committee member for Returning Mother Conference 2021, 28-29 Aug.2021
27. International InGRASS-2020, Ahmedabad, India on 2 to 5 Dec. 2020 organized by IEEE Geoscience and Remote Sensing Society (Member of organizing committee: WIE Chair)
28. International InGRASS-2021, Ahmedabad, India on 6 to 10 Dec. 2021 organized by IEEE Geoscience and Remote Sensing Society (Member of organizing committee: WIE Chair)
29. A three-day Web Development Workshop 'Weave the Web' on 1 May, 2 May and 15 May 2021
30. Organized National level project competition "Technix-2021", 27 July 2021
31. International Symposium "Tensymp 2022", 1 to 3 July 2022 (Member of organizing committee: Tourism and Social Engagements Committee Chair)
32. Local Organizing Chair, ICCMLA-2022 (8 and 9 Oct. 2022)
33. Organized one day workshop, "Panel of Conference Organizers (POCO)", December 8, 2022 Chair, YP-STEM Activity, MIGARS-2023
34. Guest Lecture series on Computer Networks, Resource person: Mr. Pravin Pandirkar, Amazon, USA, April 5 and 12, 2023
35. Three days FPGA Workshop, 21, 28 Jan. and 4 Feb. 2023
36. Two weeks FDP on "Remote Sensing Applications with Machine Learning" (RSAML 2023)", 30 Jan. to 04 Feb. 2023 (Online) and 6 to 10 Feb. 2023 (Offline)
37. Two days Hands on Workshop on Vega Processor in association with CDAC, 15 and 16 Sept. 2023
38. Organizing chair, Indian Geoscience and Remote Sensing Symposium (**InGARSS 2024**, 2 to 5 Dec. 2024

2. Organized Industry Visits

1. Dahanu Thermal Plant on 8 July 2016 (for Faculty Members)
2. UXO India on 9 Sept. 2016 (for Faculty Members)
3. ISRO, HAL and PES, Bangalore from 7 to 11 February 2019 for IEEE Student Branch, DBCE (66 Students and 4 faculty members)
4. Eklahare thermal power plant, Nashik, 1 to 4 March 2020 for IEEE Student Branch, DBCE (Students and 4 faculty members)
5. Educational Tour to NRSC, ISRO, Hyderabad, May 17-23, 2022
6. Faculty field trip to Borkar Packaging, Madgoa, Goa on 24 Sept. 2022
7. Faculty field trip to Mumbai Metro, 7 July 2023
8. Bhabha Atomic Research Centre, 23 Aug. 2023
9. Dahanu Thermal Plant on 13 Sept. 2023

3. Activities as a Chair, IEEE WIE Affinity Group Bombay Section from Aug.2020 to Aug. 2021

1. A webinar on, "Mental awareness for General Well Being", Speaker: Prema Sankar, Leading FET Practitioner and Coach, 21 Aug. 2020 in collaboration with IEEE WIE Kerala and Gujrat Section
2. A webinar on Woman Empowerment, "I made it possible", Speaker: Anima-Patil Sabale, Software and Aerospace engineer, NASA, 5 Sept. 2020 in association with IEEE SB SPIT, Mumbai
3. A webinar on, "I Engineered My Life", Speaker: Dr. Padmaja Joshi, Senior Director, C- DAC, 3 Oct. 2020 in association with IEEE SB SPIT, Mumbai
4. A webinar on "Engineering the future" for 9th and 10th Std. students, 3 Oct. 2020
5. A webinar on, "Early Detection and Prevention of Gynaecological Cancers", Speaker: Dr. Vaishali Bhalerao, Melbourne, Australia, 17 Oct. 2020
6. A session on "Women in technology – A Dire Need of the Hour" Speaker: Ms. Aanchal Sharma (On Ada Lovelace Day), 17 Oct.2020 in association with VSIT-IEEE WIE SB AG.
7. A three-day webinar series WEBCON on "Prepare yourself for ML and Deep Learning" Speaker: Dr. Aarti Karande, 31 Oct. 2020, "Cloud Computing for Beginners" Speaker: Mr. Amar Kalvikatte, 1 Nov. 2020 and "LaTeX" Speaker: Dr. Sanjay Shitole, 8 Nov. 2020 in association with IEEE SIESGST, Mumbai
8. A five-day Skill and Knowledge Enhancement Programme on "Introduction to Artificial Intelligence & its applications" from 3 to 7 Nov. 2020 in collaboration with IEEE WIE SB DBCE, Goa
9. A webinar on "Research Opportunities in Medical Image Processing" Speaker: Dr. Amoli Belsare, 28 Nov.2020
10. AICTE Sponsored One Week Virtual STTP on Research Methodology and Computational Techniques (RMCT-2020) in association with Yashwantrao Chavan College of Engineering 7 to 12 Dec., 14 to 19 Dec. and 21 to 26 Dec. 2020
11. A webinar on "Can LinkedIn Profile be an Alternative to Resume?" Speaker: Prof. Avila Naik, 28 Dec. 2020.
12. A webinar on, "Read to Lead" Speaker: Mr. Sumeet Naik

Columnist/BookReviewer/Content Writer/Academician/ Motivational Speaker/Life Coach, 30 Jan. 2021

13. A talk on "Organ Donation" Speaker: Dr. Geetika Vashisth, Head - Operations and Outreach, ORGAN India, Parashar Foundation, 26 Feb. 2021, in association with IEEE SB SPIT, Mumbai
 14. A Panel Discussion on "Women Empowerment: Work, Health and Society" 8 March 2021 in collaboration with IEEE WIE SBAG Shri Sant Gajanan Maharaj College of Engineering, Shegao
 15. National Conference on Gender Bias in Technology 8 and 9 March 2021 in collaboration with Auro University, Gujrat and DBIT, Mumbai
 16. An Inspirational talk on "Stree@2021: Choose to Challenge" 13 March 2021 in association with WIE Affinity Group of IEEE-VSIT Student Branch, Mumbai
 17. IEEE-IPA Women's Day Special event: A talk on "Technology & Challenges in ARBORNE Systems" Speaker: Ms. T. S. PADMA PRIYA, General Manager, SLRDC HAL, Hyderabad. and a panel discussion on "What Can Make Difference for Women in Stem" on 20 March 2021
 18. A webinar on "Docker Cloud & Its applications" Speaker: Mr. Amar Kalvikatte, 27 March 2021 in association with IEEE DMCE Student Branch, Mumbai
 19. A talk on "My Journey as Miss India International" Speaker: Ms. Tanvi Malhara, 9 March 2021 in association with IEEE SB SPIT, Mumbai
 20. Women's day special "Video Making Contest" March to April 2021
 21. "IEEE WIE Project Based Learning School Camp" from 3 to 11 April 2021 in collaboration with WIE Gujrat, Uttar Pradesh and Madras Section
 22. Online Expert Session on "Insight into Deep Learning" Speaker: Dr. Surya Durbha, Professor, CSRE, IITB, 10 April 2021 in association with K. J. Somaiya Eng. College, Mumbai
 23. Ternion: Website launch, newsletter release & Video Contest Winners, 28 April 2021
 24. A two-day webinar series on "Introduction to French" Speaker: Ms. Ginelle Stavio Gonsalves, Director and Teacher at Kriya Waldorf inspired educational institute, 14 and 15 May 2021
 25. A webinar on "Incorporating Universal Human Values and their fulfilment: Exploring our Aspirations and Concerns" Speaker: Rushali Thakkar, 15 May 2021
 26. A five-day webinar series on "Women Back to Work", 21-25 June 2021
 27. On International WIE day, IEEE Bombay Section WIE Affinity group in association with NVIDIA, organized an online Instructor led course on fundamentals of deep learning, 26 June 2021
 28. Webinar on Cyber Awareness for the New Generation, 25 July 2021
 29. Returning Mother Conference 2021, 28-29 August 2021
4. **Activities as a VICE Chair, IEEE GRSS Bombay Chapter** from January 2023 till date
1. Webinar on Women In GRSS-She Rises, March 8, 2023
 2. 3-Day Workshop on Remote Sensing of Cryosphere, March 23-25, 2023
 3. Webinar on Interferometry of Land Deformation: From Basic to Practical, March 31, 2023
 4. Webinar on GNSS-IR as Signal of Opportunity: Concept and Applications, April 6, 2023

5. Webinar on Satellite Radar Interferometry Monitoring Induces Land Subsidence due to Ground Water Over Extraction, April 21, 2023
6. Webinar on Deep Learning on Remote Sensing: A Revolution in Satellite Imagery Analysis Industry, May 20, 2023
7. Webinar on Solving Industry Use Cases with AI and Remote Sensing: Applications that Matter in the Real-World Scenario, May 27, 2023
8. Webinar on Deep Learning Models for Addressing Resolution Tradeoffs in Remote Sensing Images, June 24, 2023
9. National Satellite Earth Observation (NSEO) IDEATHON 2023, July to Sept. 2023

Appendix C

Programme/Conferences/Symposium attended

Programme attended:

1. NISAR Science Workshop organized at Space Applications Centre, Ahmedabad during 20-21 March 2023
2. "Five days Online Orientation Training Programme for Mentors", 26 to 30 July 2021 under National Initiative for Technical Teachers Training
3. Five Days AICTE ATAL Online Elementary FDP on "Sustainable Change Management in Technical Institutes for NEP-2020 Implementation", 23 to 27 Aug. 2021 organized by Government Engineering College, Bilaspur
4. Two days short-term web-based training course on "Microwave Data Analysis Software Tool-MIDAS" under TREES (Training and Research in Earth Eco-System)-SRTD, an initiative of Space Application Centre (ISRO), Ahmedabad during 29-30 July. 2021
5. Webinar on "Higher Education in the new reality: Assessments to ensure quality education", held on April 24, 2020, organized by FICCI Education Team
6. Seminar on, "National Innovation and Startup Policy for Students and Faculty 2019 - A Guiding Framework for HEIs for Implementation", on 28 April 2020, organized by Institution's Innovation Council MHRD'S Innovation Cell
7. Seminar on, "Role and Importance of Pre-Incubators, Incubators and Accelerators in HEIs - Harnessing Innovation and Entrepreneurial Potential of Students and Faculties at Early Stage", on 29 April 2020, organized by Institution's Innovation Council MHRD'S Innovation Cell
8. Seminar on, "Hangout with Emerging Innovator & Entrepreneurs Supported through MIC & AICTE", on 30 April 2020, organized by Institution's Innovation Council MHRD'S Innovation Cell
9. Four days Online workshop on "Examination Reforms", organized by AICTE (29 April to 2 May 2020)
10. WGCapD Webinar Series on "Remote Sensing in Crop Monitoring and Assessment", organized by Indian Institute of Remote Sensing (IIRS), ISRO (19 May to 9 June 2020)
11. Two days pre symposium tutorial on, "Artificial Intelligence (AI) and Machine Learning (ML) for Remote Sensing Data Analysis", organized by Indian Society of Geomatics- Shillong Chapter & Indian Society of Remote Sensing- Shillong Chapter and Hosted by North-eastern Space Application Centre, ISRO (18 and 19 Nov. 2019)
12. "Sixth e-Yantra Symposium (eYS-2019)", organized by e-Yantra, IIT Bombay, at IIT Bombay (5 and 6 April 2019)
13. Three days "NASA-ISRO Synthetic Aperture Radar (NISAR) Science Workshop", Organised by Space Application Centre (SAC), ISRO, Ahmedabad (15 to 17 Nov. 2018)
14. "IEEE Women in Engineering International Leadership Summit Kochi 2018", held at Kochi (7 and 8 September 2018)
15. "IEEE GRSS sponsored 3 days training programme on Soil Moisture and Agricultural Monitoring using Microwave Remote Sensing", Organised by IEEE

- GRSS and Space Applications Centre, ISRO, Ahmedabad (7 to 9 February 2018)
16. AICTE (QIP) sponsored two-week short-term course on “Big Data Analytics”, Organized by Veermata Jijabai Technological Institute, Matunga, Mumbai. (10 to 19 May 2017)
 17. Teacher training workshop on “E-Learning: Challenges and Opportunities” on 22 April 2017 at Sardar Patel COE, Mumbai
 18. IEEE GRSS sponsored two days’ workshop on “Remote Sensing and GIS in Rural Agricultural System” at DBIT, Kurla (23 to 24 September 2017)
 19. Microsoft education session "A digital transformation in education" organized by Microsoft Corporation India Private Limited, Santacruz (east), Mumbai on 23 November 2017
 20. International Workshop PolInSAR 2017, Organized by European Space Agency, **ROME, 23-27 Jan. 2017**
 21. AICTE sponsored two days national seminar on “Technologies for Development of Rural Areas” at SPIT (27 to 28 November 2017)
 22. IEEE GRSS Bombay Chapter sponsored two days’ outreach program on “Remote Sensing and GIS in Service of India’s Development” held at VMCC, IITB on 8, 9 June 2017
 23. One day workshop on “Deep Learning and Applications” organized by NVIDIA at IIT Bombay on 5th December 2016
 24. India Trento Program under Advanced Research (ITPAR) sponsored Workshop on “Remote Sensing Image Analysis” at IIT Bombay on 16th – 18th April 2016
 25. One day NASA-ISRO Synthetic Aperture Radar (NISAR) Science Workshop Organised by Space Application Centre (SAC), ISRO, Ahmedabad 16 Nov 2016
 26. Five Days FDP on “Modern Instructional Media”, organized by National Institute of Technical Teacher Training and Research (NITTTR), Bhopal at Pune. (2nd Nov to 6th Nov. 2015)
 27. Two days NASA-ISRO Synthetic Aperture Radar (NISAR) Science Workshop Organised by Space Application Centre (SAC), ISRO, Ahmedabad 19-20 Nov 2015
 28. 2 days “e-Yantra Symposium” Organized by e-Yantra lab, IIT Bombay, 10,11 April 2015
 29. Two days NASA-ISRO Synthetic Aperture Radar (NISAR) Science Workshop Organised by Space Application Centre (SAC), ISRO, Ahmedabad 17-18 Nov 2014
 30. UGC-Sponsored Refresher Course at UGC Academic Staff College, University of Mumbai, Kalina Campus. (2nd Jan. to 21st Jan. 2012)
 31. UGC-Sponsored Orientation Programme at UGC Academic Staff College, University of Mumbai, Kalina Campus. (29th Dec. 2009 to 25th Jan. 2010)

Conferences/Symposiums Attended:

1. Indian Geoscience and Remote Sensing Symposium (**InGARSS**) **2024**, 2 to 5 Dec. 2024, NIT Goa
2. IEEE Geoscience and Remote Sensing Society (IGARSS 2023) a Flag Ship Conference of GRSS, **Pasadena, California, USA**, July 16-21, 2023
3. 4th IEEE Bombay Section Signature Conference, SVKMs NMIMS MPSTME, Mumbai, December 8-10, 2022
4. IEEE TENSYP 2022 Region 10 Symposium, July 1-3, 2022, IIT Bombay

5. IEEE Region 10 Students Young Professionals Women in Engineering Life Members (SYWL) Virtual Congress 2020, 19 Sept. to 4 Oct. 2020
6. National Symposium on Innovations in Geospatial Technology for Sustainable Development with special emphasis on NER, Shillong, November 20-22, 2019
7. IEEE Geoscience and Remote Sensing Society (IGARSS 2019) a Flag Ship Conference of GRSS, **Yokohama, Japan**, July 27 to Aug 2, 2019
8. 38th Asian Conference on Remote Sensing (ACRS-2017), October 23-27, 2017, New Delhi. (Supporting partners ISRO, IIRS, Indian Space Research Organization, NCFC)
9. IEEE Bombay Section Symposium (IBSS), Baramati, Dec. 21 and 22, 2016
10. International Conference, Environmental Health 2013-Science and Policy to Protect Future Generations, **Boston, USA**, Organized by Elsevier, March 3 to 6, 2013
11. Geomatrix-11, Organized by IIT, Bombay, Feb.26 and 27, 2011
12. IEEE Geoscience and Remote Sensing Society (IGARSS 2011) a Flag Ship Conference of GRSS, **Vancouver**, July 24 to 29, 2011
13. International Conference on Technology Systems and Management (ICTSM), Organized by SVKMs NMIMS University, Mumbai, Feb. 25 to 27, 2011
14. ICWET'11 International Conference & Workshop on Emerging Trends in Technology, Organized by Thakur College of Engineering and Technology, Mumbai, Feb. 25 and 26, 2011
15. ICWET'10 International Conference & Workshop on Emerging Trends in Technology, Organized by Thakur College of Engineering and Technology, Mumbai, Feb. 26 and 27, 2010
16. 2nd IEEE International Conference on Advances in Computer Vision and Information Technology: Advances and Applications (ACVIT 2009), Organized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS), India, Dec. 16 to 19, 2009
17. Geomatrix-09, Organized by IIT, Bombay, Feb.28 to March 1st, 2009
18. NCICT-09, National conference, NMIMS University, March 6 and 7, 2009
19. National Conference on Communication and Signal Processing, Organized by Thaodmal Shahani Engineering College, Bandra, Mumbai, April 12-13, 2007
20. National Conference NCACCN 2007, Organized by Padmashree Dr. Vithalrao Vikhe Patil College of Engineering, Ahmednagar, March 9-10, 2007

Online Courses

1. Machine Learning Onramp (1 week), MathWorks, 31 May 2020
2. Fundamentals of GIS (4 Weeks), University of California, Davis (Coursera), May 2020 (26 Hrs.)
3. Image and Video Processing: From Mars to Hollywood with a Stop at the Hospital, Duke University (Coursera) May 2024 (21 Hrs.)

Appendix D

Resource person

a. Guest lectures

1. Invited by ESSAND (Earth System Science and Andaman Natural Disaster Management), PSU, Phuket, Thailand to give a research seminar “Land Cover Classification Using Multi- frequency and Multi-polarization SAR Data” (June 29 – July 3, 2014)
2. “Image Processing and its Applications”, MCA, Veermata Jijabai Technological Institute, Matunga, 5 Feb 2015
3. “Microwave remote sensing workshop-2015” organized by CSRE IIT Bombay on 23-24, Nov. 2015
4. Invited as a Chief Guest and Keynote Speaker at 25th Prestigious World Conference on Applied Science Engineering and Technology which was held on 29th and 30th December 2019, Nanutel Margao, Goa, organized by IFERP- Institute for Engineering Research and Publication. The topic of talk was “Geographic Information System and Remote Sensing Education in India, the Issues and Solutions”
5. A webinar on “Career in Engineering” organized by training and placement office, DBCE, Goa on 26 May 2020
6. A webinar on “Career in Engineering” organized by training and placement office, DBCE, Goa on 8 June 2020
7. A webinar on “Applications of Satellite Image Processing”, organized by Usha Mittal Institute of Technology, SNDT Women's University, Mumbai, and IEEE GRSS Mumbai Chapter on 8 May 2020
8. A Webinar on “IEEE WIE Membership Benefits and Scope”, SMELT 2020, organized by IEEE Bombay SAC on 29 September 2020
9. A Webinar on “Application of Machine Learning in Remote Sensing”, organized by Gandhi Engineering College, Bhubaneswar on 4 Sept. 2021
10. A Webinar on “Introduction to Microwave Remote Sensing”, organized by IEEE SB, Yashwantrao Chavan College of Engineering, Nagpur, India on 29 September 2021
11. Panelist for the panel discussion on “Women in Research: Opportunities and Challenges”, Organized by IEEE BS WIE AG, 8 March 2022.
12. Panelist: StreeTech: A leadership & Networking Symposium for Women in Technology, organized by IEEE BS WIE AG, December 17, 2022.
13. A workshop on “Fundamentals of Image Processing”, VIT, Mumbai, Sept. 22, 2023
14. A workshop on, “Satellite Image Processing Using ML”, Thakur College of Eng. & Technology, 4 Oct. 2023
15. A seminar on “Remote Sensing and Applications”, DBCE, Goa, Oct. 21, 2023

b. IEEE Skill and Knowledge Enhancement Program (SKEP)

1. “Satellite Image Processing”, organized by Vidyalankar Institute of Technology, 31 January 2015
2. “Satellite Image Processing”, organized by Pillai Engineering College, Panvel, 1

April 2017

3. "Satellite Image Processing", organized by IEEE Student Branch of Don Bosco College of Engineering, Goa on 27 May 2020

c. Short Term Training Program

1. One Week Short Term Program on "AI and ML-Enhanced Geospatial Analytics: Real World Case Studies", 8 to 12 July 2024
2. AICTE Sponsored STTP on "Analytics Essentials and Tools in Applied Research", 27th Nov to 8th Dec. 2017, Organized by St. Francis Institute of Technology, Borivali
3. National Workshop on "Current Facets of Botany" Theme1: Concept of Remote Sensing & GIS with special emphasis on Biodiversity & Resource Assessment: 24-30 July 2017, Organized by Indian Society of Geomatics (Vadodara Chapter), in collaboration with Department of Botany, Faculty of Science, The Maharaja Sayajirao University of Baroda, Indian Science Congress Association (Baroda Chapter), Indian Women Scientists' Association (Baroda Branch) and IEEE Geoscience and Remote Sensing Society (Gujarat Chapter)
4. STTP on Satellite Image Processing for Remote Sensing Organized by Terna Engineering College during 2 to 6 Jan 2017
5. STTP on High Performance Computing with CUDA, MPI and Open MP Organized by Dept. Information Technology, VIT during 1 to 5 Feb 2017.
6. STTP on Innovations and Applications of Engineering Mathematics Organized by Dept. of Mathematics, VIT during 28 Nov. to 2 Dec. 2016.

d. Faculty Development Program

1. Effective Technical Paper Writing for the teaching faculty of Don Bosco College of Engineering, Organized by Training and Placement Cell of DBCE, on Friday, 30 November 2018
2. GIS using QGIS for the faculty members of various colleges affiliated to the university of Mumbai January 2014
3. Practical: Hands on for Data Mining Course (Msc IT-Part-I) using R/Weka at S.K. Somaiya College, Vidyavihar, August 2013
4. Practical: Hands on for Parallel Processing Course (Msc IT-Part-II) using Linux August 2005 at Vaze Kelkar College, Mulund
5. Practical: Hands on for Multimedia Course (Msc IT-Part-II) using JAVA August 2005 at Vaze Kelkar College, Mulund
6. Practical: Hands on for Digital Image Processing Course (Msc IT-Part-I) using Matlab/C September 2004
7. Practical: Hands on for Speech Recognition Course (Msc IT-Part-I) using Matlab February 2004

e. Session Chair:

1. AICTE sponsored international conference on Advances in Information Technology and Research Organized by Vidyalanakar Institute of Technology, Wadala, Mumbai (1 June 2021)
2. International conference ICCCV 2017, organized by Thakur College of Engineering and Technology (24 Feb 2017)
3. International conference ICAC3, organized by Fr. Agnel, Bandra (1 April 2015)
4. "Advancement in IT: Current Trends, Future Scenario and Impact on Society",

organized by S. M. Shetty College of Science and Commerce and Studies, Powai
(23 August 2014)

f. Worked as a Judge:

1. SMELT 2.0 Joint SB Leadership contest 2021 on 31 Aug.2021 organised by SAC, IEEE Bombay Section
2. Essay writing competition on, "Opportunities and Challenges for MSME in the state of Goa", organized by Micro, Small and Medium Enterprises (MSME) for the students at higher secondary government schools across Goa (11 Dec. 2019)
3. Tantravihar Intercollege Project Competition, organized by Vidyalankar Institute of Technology (VIT) (2014, 2015 and 2016)
4. Project Competition, organized by Vidyalankar Polytechnic (March 2017)

g. Member of Program Committee (International conference):

1. ICRTITCS-11, ICRTITCS-12
2. ICAC3 2015
3. NCATM 2017
4. CSCITA 2017
5. ICAC3 2019
6. National Conference on Digitization for Better Life 2019
7. ICAC3 2021

h. Member of Exam Panel

1. B.E ETC/ECE programme from 2019 at University of Goa
2. M.E EXTC programme 2016, 2017, 2018 at University of Mumbai
3. PhD Entrance Test (PET) for Information Technology 2015-16 at University of Mumbai
4. M.Sc. from 2004 to 2014 at University of Mumbai

i. Member of syllabus committee (University of Goa) for B.E. (ETC/ECE) 2019-20, RC (2019- 20)

1. Digital Image Processing (T.E. ETC/ECE) 2019
2. Machine Learning (B.E. ETC/ECE) 2019
3. High Performance Computer Architecture (B.E. ETC/ECE) 2019

j. Member of syllabus committee (University of Mumbai) for B.Sc., M.Sc. IT., B.E., and ME EXTC. Set the syllabus for the following courses:

1. DBMS (T.E. EXTC) 2018
2. OOPS using JAVA (B.E EXTC) 2017
3. Image Analysis using Machine Learning (ME EXTC) 2016
4. Remote Sensing (ME EXTC) 2016
5. Image Processing (M.Sc. IT Part-II) 2014
6. Introduction to Embedded System (M.Sc. IT Part-I) 2014
7. Real Time Embedded System (M.Sc. IT Part-II) 2014

8. Design of Embedded Control System (M.Sc. IT Part-II) 2014
9. Advanced image Processing (M.Sc. IT Part-II) 2014
10. GIS (TY B.Sc. IT) 2013
11. Multimedia (SY B.Sc. IT) 2012
12. Fundamentals of Digital Computing (FY B.Sc. IT) 2011

k. Lab material is developed for following courses:

1. GIS (TY B.Sc. IT) (2014)
2. Image Processing (M.Sc. IT Part-II) (2014)
3. Data Mining (M.Sc. IT-I) (2013)
4. Multimedia (M.Sc. IT-II) (2005)
5. Parallel Computing (M.Sc. IT-II) (2005)
6. Speech Recognition (M.Sc. IT-I) (2004)

(Set the practical list at university level and provided the resource material to the faculty members from the various colleges)

Appendix E

Sponsored Research Projects:

1. "Development of Machine Learning Tools for Speckle Reduction and Urban Applications" Duration: 4 Years (May 2017- March 2021), L & S band Airborne SAR RA, Sponsored by Space Application Centre, ISRO

Objectives:

1. Development of a technique using Machine Learning for speckle removal to improve classification accuracy of various urban features
2. Classify the settlement into various land-cover features

Languages/Software: Python, Matlab, PolSARPro

Algorithms:

- SOFM
- DFT Based Speckle Filter
- Morphology Based Speckle Filter
- Random Forest Classifier
- Artificial Neural Network (ANN)
- Decision Tree Classifier

Outcome:

1. Machine learning algorithm is developed for speckle removal
 2. DFT and Morphology Based Speckle Filter is developed
 3. A code is developed in MATLAB to compare two speckle filters based on various parameters
 4. Classification tool is developed to apply Random Forest, Neural Network and Decision Tree on PolSAR images using MATLAB
 5. The python code is developed for semantic segmentation
2. Minor Research Proposal sponsored by University of Mumbai. Title: "Regression Based Crop Yield Estimation Model". Duration: 01 Year (2019-2020)

Objectives:

- To collect the available hydrological, meteorological, agrological, and biological data available in public domain for three specific crops. Eg. Onion, Sugarcane, Tomato etc.
- Use well established techniques to structure the collected data to make it platform independent and improve data usability
- Study and characterize the yield variation and its dependency on various multi- disciplinary parameters for each of the identified crop
- Identify the appropriate regressive model for the crops for yield estimation
- Recommendations to the farmer in local language based on the model output.

Languages/Software: Python, Django

Algorithms: Multiple Regression**Outcome:**

A novel crop yield estimation method using regression models for three different crops is developed using publicly available data from both government and semi government organizations. The approach can also be extended to other crops and for various other regions too. Depending on availability of other sensor specific data, the basic framework may be expanded.

3. Contributed in “Development of land parameter retrieval techniques and tools”, Duration: four years (2011-2014), sponsored by ISRO during PhD

Objectives:

1. Develop a better, efficient, and effective method for polarimetric SAR image classification
2. Study various polarization combinations (full, dual and hybrid) for the classification of various land features
3. Study different frequencies and different decomposition techniques for classification of various land features
4. Comparison of classification accuracy of polarimetric SAR data and optical data to study the synergy of both remote sensing techniques

Languages/Software: MATLAB, PolSARPro, ENVI, NEST

Algorithms:

- Wishart Classifier
- Support Vector Machine (SVM) Classifier
- Decision Tree Classifier
- ANN Classifier
- Maximum Likelihood Classifier

Outcome:

1. Technique is developed for classification of multi-frequency and multi-polarized data which is acquired from different sensors having different resolution.
2. ANN classifier algorithm is developed using MATLAB
3. It is proved that the use of non-parametric classifiers (ANN, SVM and DTC) is effective compared to parametric classifiers
4. The methodology is developed to increase the classification accuracy by combining Circular Polarization Ratio (CPR) and SPAN with m-delta decomposed image. First time CPR has been used in land-based study
5. The technique is developed to fuse the optical and multi-frequency PolSAR data to get good classification accuracy
6. The effective technique to classify the oriented urban area using Circular Correlation Coefficient (CCC) and polarization orientation compensation (POC) along with all the components of decomposition is developed

Appendix F

Research Collaborations

- Academia (Research/Sponsored Projects)
 - Maharaja Sayajirao University, Baroda
 - TERI University, New Delhi
 - Marwadi University, Gujrat
 - VJTI, Mumbai
 - UMIT, SNDT, Mumbai
 - RAIT, Mumbai
 - A. P. Shah Eng. College, Thane
 - Pillai Eng. College, Panvel
 - DBCE, Goa
 - NIT, Goa
- Industry (Consultancy/Research/Projects/Student Internships/Expert Talks/Finishing Schools)
 - Inficorridor Solutions Pvt. Ltd., Mumbai
 - Capella Space, California, USA
 - Bhugol GIS, Pvt. Ltd., Mumbai
 - Incubation Centre, FiiRE, Goa
 - Autotech Builds Automation, Goa
 - EnviroGuru, Goa
 - Eduvance and Vanmat Technologies Pvt. Ltd.
 - Mrinq Technologies LLP, Goa
 - SUN360, Goa
- Research Labs (Research/Projects/Student Internships/Expert Talks)
 - Space Application Centre, ISRO, Ahmedabad
 - CSRE, IIT Bombay