

BIO-DATA

Name: Dr. Sangita D. Bharkad

Designation: Assistant Professor

Experience: 16 Yrs

Educational Qualifications: Ph.D.

Ph.D. topic: Secure Biometric System using Fingerprint

Recognized Ph.D. guide at:--Dr. B.A.M.U

Research Areas: Digital Signal and Image processing

Research Project Completed: -- Career Award for Young Teachers AICTE, New Delhi

(Completed)

Book Chapter:

[1] S. Bharkad and M. Kokare, Fingerprint Identification: Ideas, Influences, and Trends of the New Age , Pattern recognition, Machine intelligence and Biometrics (PRMI), Chapter 17, pp. 417-455, Springer publication 2011.

Member of Professional Bodies: IETE, ISTE

Reviewer of Journals:

1. Computers and Electrical Engineering, Publisher, Elsevier.
2. Biometrics, Publisher, IET.
3. Intelligent Systems, Publisher, Willey.
4. Biomedical Signal Processing and Control, Publisher, Elsevier.
5. IEEE Access, Publisher, IEEE.
6. Pattern Recognition and Artificial Intelligence, Publisher, World Scientific.
7. Journal of Information Security, Publisher, Taylor & Francis
8. Medical, Biological Engineering & Computing, Springer
9. Biocybernetics and Biomedical Engineering, Elsevier
10. Journal of applied computing and Informatics

Reviewer of Conferences:

1. National Conference on Communication, Computing and Networking Technologies (NCCNT-2013) during 15-16 March 2013, organized by SGGS Institute of Engineering and Technology, Nanded.



2. IEEE International Conference on Information processing (ICIP-2015), 16 - 19 Dec 2015, organized by Vishwakarma Institute of Technology, Pune.
3. IEEE International Conference on International Conference on Signal and Information Processing (IConSIP-2016), 6/10/2016 to 8/10/2016, organized by SGGSV Institute of Engineering and Technology, Nanded.
4. IEEE International Conference on Computing, Analytics, and Security Trends (CAST-2016), 19-21/12/2016, Organized by COEP, Pune.
5. IEEE International Conference Punecon 2020.
6. International Conference ICCICT 2021.
7. International Conference IATMSI 2022

Countries Visited:

- 1) Attended and presented paper in international conference at Bangkok, in Thailand (Received Best Paper Award) .
- 2) Attended and presented paper in international conference at Singapore.

Publications:

➤ **International Journal Papers:**

- S. Bharkad and M. Kokare , “Sine Transform Based fingerprint Matching,” *Int. J. of Technology and Engineering System*, Vol. 01, pp-131-136, Sep. 2010.
- S. Bharkad and M. Kokare , “Performance evaluation of distance metrics: application to fingerprint recognition,” *Int. J. of Patt. Recogn. Artif. Intell (IJPRAI)*, Vol. 25, No.6, Sept. 2011, pp-777-806.
- S. Bharkad and M. Kokare, “Modified FFT Features for Fingerprint Matching,” *Int. J. of Signal and Imaging Systems Engineering*, Vol. 6, No. 3, pp. 150 – 157, 2013.
- S. Bharkad and M. Kokare, “Hartley Transform based Fingerprint Matching,” *Int. J. of Information Processing*, pp. 85-100. March-2012.

- S. Bharkad and M. Kokare, "Rotated Wavelet Filters-based Fingerprint Recognition," *Int. J. of Patt. Recogn. Artif. Intell (IJPRAI)*, Vol. 26, No. 3, Sept. 2012.
- A. Shirsath and S. Bharkad, "Survey of currency Recognition System using Image Processing," *Int. J. of Computational Engg. Research*, Vol. 03, pp. 36-40, July 2013.
- Harsha Panchariya and Sangita Bharkad, "Comparative Analysis of Feature Extraction Methods for Optic Disc Detection," *IOSR Journal of Computer Engineering (IOSR-JCE)*, Vol. 16, Issue 3, PP 49–54, May-June 2014.
- Sagar Kapale and Sangita Bharkad, "Liquid Level Estimation in Dynamic Condition using Kalman Filter," *Journal of Engineering Research and Application*, Vol. 6, Issue 8, pp.12–16, August 2016.
- Nikhil Patil and Sangita Bharkad, "Embedded based Flow Control for Industrial Furnace Automation," *International Journal of Engineering Research and Technology (IJERT)*, Vol. 5 Issue 08, pp. 298–301, August 2016.
- S. Bharkad, "Automatic segmentation of optic disk in retinal images," *Elsevier Biomedical Signal Processing and Control* 31 (Jan. 2017) 483–498.
- S. Bharkad and M. Kokare, "Fingerprint Matching Based on Dimension Reduced DCT Feature Vectors ," *Int. J. of Information Processing*.
- Sangita Bharkad, "Automatic segmentation of optic disk in retinal images," *Elsevier Biomedical Signal Processing and Control* 31 (2017) 483–498.
- Nikhil Patil and Sangita Bharkad, "Embedded based Flow Control for Industrial Furnace Automation," *International Journal of Engineering Research and Technology (IJERT)*, Vol. 5 Issue 08, pp. 298–301, 2016.
- Sagar Kapale and Sangita Bharakad, "Liquid Level Estimation in Dynamic Condition using Kalman Filter," *Journal of Engineering Research and Application*, Vol. 6, Issue 8, pp.12–16, 2016.
- Harsha Panchariya and Sangita Bharkad, "Comparative Analysis of Feature Extraction Methods for Optic Disc Detection," *IOSR Journal of Computer Engineering (IOSR-JCE)*, Vol. 16, Issue 3, PP 49–54, 2014.

- Amol Shirsath and Sangita Bharkad, "A Review of Paper Currency Recognition System," *IOSR Journal of Computer Engineering (IOSR-JCE)*, Vol. 10, Issue 1, PP. 71–76, 2013.
- S. Bharkad and M. Kokare, "Rotation-invariant fingerprint matching using radon and DCT," *Sadhan- Indian Academy of Sciences*, 42, pages2025–2039(2017).
- S. Bharkad, "Morphological statistical features for automatic segmentation of blood vessel structure in retinal images," *Int. J. Telemedicine and Clinical Practices*, Vol. 2, No. 3, pp-197-214,2017.

- Shubham Toshniwal and Sangita Bharkad, An Exploration Of Industrial Utility Monitoring Technologies For Energy Usage , *International Journal of Scientific & Technology Research*, Volume 8, Issue 08, August 2019,pp.371-374.
- Priyanka Kapkar and S. Bharkad Lip Feature Extraction and Movement Recognition Methods: A Review, *International Journal Of Scientific & Technology Research*, Volume 8, Issue 08, August 2019, pp.50-55.
- Sangita D Bharkad, Frequency domain analysis of grey level intensities for extraction of optic disc in retinal images, *International Journal of Medical Engineering and Informatics*, pp 297-307,2020.

- **International Conference:**
 - S. Bharkad and M. Kokare , “Survey of Current Fingerprint Matching Methods,” *Proc. of Conf. on Computer Networks and Security*, pp-352-355,Sept. 2008.
 - S. Bharkad and M. Kokare , Comparison of Transform based Features for Fingerprint Matching,” *Proc. in IEEE conf. on Electronic Design and Signal Processing, December 2009*.
 - S. Bharkad and M. Kokare , “Sine Transform Based Fingerprint Matching,” *Proc. of Conf. on Information Science and Applications*, pp-56-59, Feb. 2010.
 - S. Bharkad and M. Kokare, “Fingerprint Matching using M Band Wavelet Transform,” *Proc. of IEEE Conf. on Advances in Engineering, Science and Management (ICAESM)*, pp. 26-32, March 2012.

- S. Bharkad and M. Kokare, "Fingerprint Matching using Discreet Wavelet Packet Transform," *Proc. of IEEE Conf. on Advance Computing (IACC)*, pp. 1183-1188, Feb. 2013.
- Sangita Bharkad, "Automatic Segmentation of Optic Disk in Retinal Images using DWT," *IEEE International Conf. on Advanced Computing*, pp.386–391, Feb. 2016.
- Sailesh Kulkarni and Sangita Bharkad, "Classification of Human Age using Radon and Wavelet Transform," *IEEE Conf. on Electronics and Communication Systems*, Vol. 05 pp. 2359–2363, Feb. 2016.
- S. Bharkad and M. Kokare, "Walsh Transform based features for fingerprint matching," *IEEE Conf. on Electronics and Communication Systems*, Vol. 05 pp. 2400–2404, Feb. 2016.
- S. Bharkad, "Automatic segmentation of blood vessels in retinal image using morphological filters," *ACM International Conf. on Software and Computer Applications*, pp. 132–136, Feb. 2017.
- Sangita Bharkad, "Automatic Segmentation of Optic Disk in Retinal Images using DWT," *IEEE International Conf. on Advanced Computing*, pp.386–391, 2016.
- Sailesh Kulkarni and Sangita Bharkad, "Classification of Human Age using Radon and Wavelet Transform," *IEEE Conf. on Electronics and Communication Systems*, Vol. 05 pp. 2359–2363, 2016.
- Komal B. Rode and Sangita D. Bharkad "Automatic Segmentation of Malaria Affected Erythrocyte in Thin Blood Films," *Computational Vision and Biomechanics*, pp 993-1002.
- S. Bharkad, " Automatic Segmentation of Blood Vessels in Retinal Image using Morphological Filters," *Proceedings of the 6th International Conference on Software and Computer Applications*, Feb.2017,pp.132–136.
- S. Bharkad, "Automatic Detection of Microaneurysmsin Retinal Images," *ICVIP 2017: Proceedings of the International Conference on Video and Image Processing*, December 2017 Pages 34–38.
- Monika A. Shejwal and Sangita D. Bharkad, "*Segmentation and Extraction of Text from Curved Text Lines using Image Processing Approach*," *IEEE*,

International Conference on Information, Communication, Instrumentation and Control (ICICIC – 2017), pp. 373-377.

- *Tejashree P. Salunke and S .D. Bharkad, Power Point Control Using Hand Gesture Recognition Based on Hog Feature Extraction And K-NN Classification, Proceedings of the IEEE 2017 International Conference on Computing Methodologies and Communication (ICCMC), pp. 1151-1155.*
- Priyanka P Kapkar, SD Bharkad, Double authentication system based on face identification and lipreading, Recent Trends in Image Processing and Pattern Recognition: Third International Conference, RTIP2R 2020, Aurangabad, India, January 3–4, 2020

Conferences / Workshop Organized:

1. One week IETE sponsored STTP on Digital Image Processing using MATLAB.
2. One week TEQIP sponsored STTP on System Design using FPGA.
3. Two days workshop on Wavelet Theory

➤ Short Term Training Programmes Participated:

1. Tanner Tools Pro. (A Complete VLSI Design System), 24.09.2006 to 25.09.2006, S.G.G.S.I.E.T, Nanded , (02 Day)
2. Open Source-PHP and MYSQL, 16.01.2007, Government College of Engineering, Aurangabad, (01 Day)
3. One Day Workshop on GNU Octave, 31.03.2007, MIT College of Engineering, Aurangabad, (01 Day)
4. Entrepreneurship Development, 5.04.2007 to 7.04.2007, MIT College of Engineering, Aurangabad, (03 Day **ISTE**)
5. Wavelets, 24.08.2007 to 25.08.2007, Maharashtra Academy of Engineering, Pune, (02 Day)
6. Open Source Software Technology, 8.01.2008, MIT College of Engineering, Aurangabad, (01 Day)

7. Mobile Device Application Development in VB.Net, 26.04.2008 to 29.04.2008, MIT College of Engineering, Aurangabad, (04 Day)
8. Recent Trends in Digital Signal and Image processing, 24.06.2008 to 28. 06.2008, U.V. Patel College of Engineering, Mehsana, Gujarat, **(01 week AICTE-ISTE)**
9. Faculty Awareness Camps on Entrepreneurship(FACE), 29.06.2008 to 01.07.2008, U.V. Patel College of Engineering, Mehsana,Gujarat, (03 Day **ISTE**)
10. Texture Analysis and Applications, 10.11.2009, S.G.G.S.I.E.T, Nanded, (01 Day)
11. Challenges in CMOS VLSI Design, 8.11.2008 to 10.11.2008, MIT College of Engineering, Aurangabad, (03 Day)
12. Emerging Trends in Wireless Communication and Networks 23.03.2009 to 28.03.2009, Umrer College of Engineering,Umrer, **(01 week AICTE-ISTE)**
13. Wavelets and Applications, 8.06.2009 to 10.06.2009, S.G.G.S.I.E.T, Nanded (03 Day **IEEE**)
14. Effective Research Methodology, 23.01.2010, S.G.G.S.I.E.T, Nanded, (01 Day)
15. Staff Development Program on Neural Network Design, 13.06.2011 to 25.06.2011, Sinhgad College of Engineering,Pune,**(02 Weeks AICTE)**
16. Skill Matrix Enhancement and effective Teaching-learning for quality Technical education, 28.11.2011 to 09.12.2011, Government College of Engineering, Aurangabad, **(02 Weeks ISTE)**
17. Recent Advances in Speech, Image and Video Processing, 12.12.2011 to 23.12.2011, S.G.G.S.I.E.T, Nanded, **(02 Weeks AICTE)**
18. Linear Algebra and Its Applications, 21.05.2012 to 02.06.2012, S.G.G.S.I.E.T, Nanded, **(02 Weeks TEQIP)**
19. Self-Management and Team Management for Success-Breaking the Barriers, 18.09.2012, Government College of Engineering, Aurangabad, (01 Day TEQIP)
20. Genetic Algorithm and Neuro Fuzzy Applications in Engineering, 17.12.2012 to 21.12.2012, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
21. OrCAD Software, 15.01.2013 to 19.01.2013, WINspect Infosystem Pvt Ltd, Navi Mumbai, **(01 Week TEQIP)**
22. Patent and Copyright Policy, 9.04.2013, Government College of Engineering, Aurangabad, (01 Day TEQIP)

23. Embedded Systems and Real Time Applications, 15.04.2013 to 19.04.2013, G.H. Raisoni College of Engineering, Nagpur, **(01 week TEQIP)**
24. System Design using FPGA, 15.04.2013-19.04.2013, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
25. MSP 430 and its Applications and Analog System Design with ASLKv2010 Starter kit, 20.09.2013 to 24.09.2013, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
26. Network Security, 7.10.2013 to 11.10.2013, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
27. Mobile Application development Using Android: A Next generation Platform, 2.12.2013 to 13.12.2013, Pune Institute of Technology, Pune, **(02 Weeks AICTE)**
28. Research methodology –Concepts and Tools, 16.12.2013 to 20.12.2013, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
29. Work Life Balance, 05.12.2014, Government College of Engineering, Aurangabad, **(01 Day TEQIP)**
30. NBA Preparation, 20.12.2014 to 21.12.2014, Government College of Engineering, Aurangabad, **(02 Day TEQIP)**
31. Outcome based Education and NBA, 31.01.2015 to 01.02.2015, Government College of Engineering, Aurangabad, **(02 Day TEQIP)**
32. Biomedical Signal Processing, 30.03.2015 to 03.04.2015, S.G.G.S.I.E.T, Nanded, **(01 Week TEQIP)**
33. RF and Microwave communication: Fundamentals, Design and Application, 04.05.2015 to 17.05.2015, R.C. Patel Institute of Technology, Shirpur, Dhule, **(02 Weeks AICTE)**
34. Pedagogy to Synergogy, 07.12.2015 to 11.12.2015, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
35. Recent Trends in Electromagnetics, RF and Radar Signal Processing, 11.06.2018 to 15.06.2018, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
36. **Training the Trainers for the Course: Engineering Exploration**, 03.08.2018 to 07.08.2018, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
37. Python Programming for Image Processing, 19.09.2018 to 23.09.2018, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**

38. Foundation Program in ICT for Education, 13.09.2018 to 18.10.2018, Indian Institute of Bombay, **(02 Weeks AICTE)**
39. Pedagogy for Online and Blended Teaching -Learning Process, 30.10.2018 to 13.12.2018, Indian Institute of Bombay, **(02 Weeks AICTE)**
40. Introduction to Machine Learning, August-October 2018, Indian Institute of Madras, **(01 Weeks AICTE)**
41. Deep Learning, July-October 2018, Indian Institute of Madras, **(1.5 Weeks AICTE)**
42. Outcome based Education with Assessment and Evaluation, 21.01.2019 to 25.09.2019, Government College of Engineering, Aurangabad, **(01 Week TEQIP)**
43. Linear Algebra and statistics For Engineers and Scientist(LA & SES-2020)”, College of Engineering,Aurangabad,
Technical Educational Quality QualityImprovement Programme(**TEQIP-III**) **(02 Sep-6sep 2020)**
44. Image Processing Data Science With MATLAB (IP & DSWM 2020)Technical Educational Quality QualityImprovement Programme(**TEQIP-III**) **(7Jully – 11 jully2020)**(**AICTE-ISTE**)
45. Advancement In Renewable Energy Government College of Engineering ,Nagpur **(5/5/21—11/5/21)**
46. Next Generation Software Tool &Tread For Software Solution : Current Practice – NGST 2020 Government College of Engineering ,Aurangabad (13 Jun – 17 Jun 2020)Technical Educational Quality Quality Improvement Programme(**TEQIP-III**)
47. Signal, Image & Video Processing: A Practical Approach (SIVPAPA-2020)GOVERNMENT COLLEGE OF ENGINEERING, KARAD,Technical Education Quality Improvement **Program (TEQIP-III)****(May 26--30May2020)**
48. Digital Transformation In Teaching Learning Process Government College of Engineering ,Aurangabad **(April06 -April 2nd 2020)**(**TEQIP-III**)National Project Implementation Unit(**NPIU**)
49. “Machine Learning and Deep Learning Applications in Engineering & Science”Technical Education Quality Improvement Program –III, Government college of engineering kara and rajkiya engineering college azamgarh**(16th May 2020 to 20th May 2020)**

50. “Optimization Techniques”(On Friday 10th December 2021)Government College of Engineering Karad,(Indian Society for Technical Education) –**ISTE**
51. “ Developing Internet On Things(IOT) Solutions and Azure” (Feb 14- feb 18,2022,) Conducted by -Cloud That Technologies PVT.LTD, Bengluru, Sponsored by(Director Of Technical Education, Mumbai
52. “Electronics Systems: Devices, IC and Applications” 14 th–18 th March, 2022, National Institute of Technology Arunachal Pradesh, sponsored by **AICTE**.
53. “Product Development And Analysis (PDA)-2022” Organized By Mechanical Engineering Department, Government College Of Engineering, Aurangabad, (21st Feb 2022 To 25th Feb 2022.)
54. All India Council for Technical Education (AICTE),National Initiative For Technical Teachers Training year 2023-24 (Eight Modules)
55. “Quantum Computing” ISTE Approved Short-Term Training Program on “Quantum Computing“Agnel Charites' Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, Maharashtra.(5 th January to 9th January, 2023)
56. Data science & it’s Real Life Application, P.E.S. College of Engineering ,Aurangabad, Indian Society of Technical Education(08-04-22 – 13-04-2022)
57. “Trends & Challenges in the Development of Electric Vehicle & Hybrid Electric Vehicle (Series-2)” Indian Institute Of Engineering & Technology (14 Nov- 18 No 2022)
58. “21 st Century: Recent Treads , Challenges And Future Roadmap for Transition in technological Generations”IRO,YCC Nagpur(25-30 April 2022)