

Somaiya Vidyavihar University

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| Name: Dr. Sonali Patil | | | E-mail: sonalipatil@somaiya.edu | | |
| Contact No: +91-22-66449191 EXTN 9004, 9425 | | | | | |
| Department/Section: Information Technology | | | | | |
| College: K J Somaiya College of Engineering | | | | | |
| DOJ Somaiya: 7/8/2003 | | Career Experience: 20 Yrs | | Industry Experience: 0.8 Yrs | |
| | | | | Teaching Experience: 19 Yrs | |
| Present Academic Designation: Professor | | | Present Administrative Designation: Associate Dean Academic Programmes | | |

Area of research/specialization and Courses Delivered

Research domain/interests/areas

1. Image Processing and Analysis
2. Geographical Information Systems
3. Artificial Intelligence and Machine Learning
4. Information Security

Courses Delivered

Under Graduate Courses:

Artificial Intelligence, Soft Computing, Image Processing, Robotics, Computer Vision, Principles of Communication Engg., Digital Signal Processing, Digital Logic Design and Analysis.

Post Graduate Courses:

Image Processing, Cryptography and PKI, Information Security Compliance, Information Security and Risk Management

PhD Course work: Machine learning, Advance Image Processing, Research Methodology

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| Recognition as a teacher by any University | UG: Yes | PG: Yes | Ph.D : Yes |
| Details of Recognitions | | | |
| <ol style="list-style-type: none"> 1. Research Guide for PhD in Computer Engineering Somaiya Vidyavihar University (SVU/VC/20-21/021 dated February 10, 2020 w.e.f. January 20, 2020) 2. Research Guide for PhD in Information Technology Somaiya Vidyavihar University (SVU/DRO/PhDGL/22-23/006 dated January 11, 2023 w.e.f. January 27, 2020) 3. Research Guide for PhD In Computer Engineering University of Mumbai (PG/2/ICD/2017-18/6037 w.e.f 28-07-2017) 4. Research Guide for PhD In information Technology University of Mumbai since 2019 5. PG Teacher for M.E. Degree in Computer Engineering University of Mumbai (PG/I.C.D/2012-13/2317 w.e.f 19-12-2012) 6. PG Teacher for M.E. Degree in Information Technology University of Mumbai (PG/I.C.D/2015-16/65 w.e.f 05-03-2015) 7. Approved UG teacher in University of Mumbai and Somaiya Vidyavihar University | | | |

| Education | | | | | |
|------------------|------------------------------------|---|---------------------------------|------------|--------------------|
| Examination | Name of the Degree | University/Board | Institute/College | Year | CPI/SPI/ %Marks |
| Ph.D | Ph.D. (Electronics Engineering) | Shivaji University, Kolhapur | Shivaji University, Kolhapur | April 2017 | Awarded |
| PG | M.E. (Electronics Engineering) | Walchand College of Engineering, Sangli | Shivaji University, Kolhapur | Sep 2003 | 67.06 |
| UG | B.E. (Electronics Engineering) | PVPIT, Sangli | Shivaji University, Kolhapur | April 2000 | 64.74 |

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| Notable Experience Details | | | | | |
|-----------------------------------|--|--|-------------------|-------------------|--------------------|
| Sr. No | Name of the organization | Designation | Date of Joining | Date of Leaving | Experience (Years) |
| 1. | K J Somaiya College of Engineering | Professor, Information Technology, SVU | July 01, 2020 | Till Date | 2 years |
| 2. | | Associate Professor, Information Technology | August 01, 2011 | June 30, 2020 | 9 years |
| 3. | | Assistant Professor, Information Technology (Approved from 01/08/2008 as per University Circular No. CONCOL/272 of 2008) | August 01, 2008 | July 31, 2011 | 3 years |
| 4. | | Lecturer, Computer Engineering (Approved w.e.f 16/12/2003 CONCOL/SA/5578/2006) | December 16, 2003 | July 31, 2008 | 5years |
| 5. | | Lecturer (Temporary Basis), Computer Engineering | 07 August 2003 | December 15, 2003 | 4 months |
| 6. | Onkar Engineers, MIDC, Kupwad, Sangli-416436 | System Administrator | 01 June 2002 | 30 April 2003 | 10 months |

Research Accomplishments and Projects

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|--|--|---|
| No of students pursuing Ph.D as on date: 02 | | No of students completed Ph.D as on date: NIL |
| No of students completed PG thesis / Project work as on date: 12 | | No of students / groups completed UG projects as on date: 35+ |
| Publications Total: 25+ 1 selected | Number of Peer review Journal papers: 15+1 selected | Number of Conference papers: 4 + 5 conference papers published as Springer book chapters |

Details of Publications:

International Journals

1. Ahuja, S.N., Patil, S.A, Semantic Understanding of High Spatial resolution Remote Sensing Images using Directional Geospatial Relationships (Selected in Taylor and Francis journal Annals of GIS. Publication in process)
2. Gopalkrishna Waja, Gaurang Patil, Charmee Mehta, Sonali Patil, How AI Can be Used for Governance of Messaging Services: A Study on Spam Classification Leveraging Multi-Channel Convolutional Neural Network, International Journal of Information Management Data Insights, Volume 3, Issue 1, 2023, 100147, Elsevier. ISSN 2667-0968, <https://doi.org/10.1016/j.jjime.2022.100147>.
3. Sujata P. Pathak, Dr. Sonali Patil, Shailee Patel, "Solar panel hotspot localization and fault classification using deep learning approach", Procedia Computer Science, Volume 204, 2022, Pages 698-705, ISSN 1877-0509 <https://doi.org/10.1016/j.procs.2022.08.084>
4. Sudha Gupta, Ravindra Salvi, Deepak Sharma, Sonali Patil, Bharathi H.N, Swati Mahajan, Manoj Palsodkar, "Need Based Students' Scholarship: PUSH KJSCE-A Success Story", Journal of Engineering Education Transformations, Volume 33, January 2020, Special issue, eISSN 2394-1707. PP 275-279

DOI: 10.16920/jeet/2020/v33i0/150159

5. Vivek Tirodkar, Dr. Sonali Patil, "Necessity of Dedicated Vulnerability Analysis and Data Centre Patch Management Process in Banking Sector in India" Volume-67 Issue-7, International Journal of Engineering Trends and Technology, 2019 (DOI: 10.14445/22315381/IJETT-V67I7P215)
6. Nishant Mehta, Dr. Sonali Patil, "Approach for Handling Cyber Security Incidents in an Organisation", International Journal of Engineering Trends and Technology, Volume 56 Number1, 37-42, February 2018
7. Parvin Shaikh, 2016, "Performance Evaluation of Hybrid Cryptography System", International Journal of Engineering Trends and Technology, Volume54 Number 4 , 255-263, December2017
8. Ashwinkumar Malwadkar, Sonali Patil, "Data mining Techniques for Digital Forensic Analysis", March 16 Volume 4 Issue 3 , International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC), ISSN: 2321-8169, PP: 17 – 22
9. Karishma Pooj, Sonali Patil "Understanding File Upload Security for Web Applications", International Journal of Engineering Trends and Technology (IJETT), V42(7),342-347 December 2016. ISSN:2231-5381. www.ijettjournal.org. published by seventh sense research group. DOI: 10.14445/22315381/IJETT-V42P261
10. Poonam Bhogale and Sonali Patil, "Oil Spill Detection in SAR Images Using Texture Entropy Algorithm and Mahalanobis Classifier", in International Journal of Engineering Science and Technology (IJEST) (ISSN : 0975-5462) Vol. 4 No.12 PP:4823-4826, December 2012.
11. P. Patil, Sonali Patil Dr. V. R. Udipi, "Detection and Classification of Skin Lesion in Dermoscopy images" in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 9, Number 24 (2014) pp. 27719-27731 © Research India Publications
12. Sonali Patil, Dr. V. R. Udipi and Deepti P., "A Robust system for segmentation of primary liver tumor in CT images" in International Journal of Computer Applications (Foundation of Computer Science, New York, USA), (0975 – 8887) Volume 75– No.13, August 2013.
13. Sonali Patil, Dr. V. R. Udipi and P Bhogale, "Implementation of Breast Tumor Demarcation in Digital Mammograms using Local Thresholding and Mathematical Morphology" in International Journal of Computer Applications (0975 – 8887) (Foundation of Computer Science, New York, USA.), Volume 66– No.24, March 2013.
14. Sonali Patil, and Dr. V. R. Udipi, "Using Histogram Specification in a Hybrid Preprocessing Technique for Segmentation of Malignant Skin Lesions from dermoscopic Images" in International Journal of Computer Science Engineering and Information Technology Research (IJCSSEITR) – Transteller Publication (TJPRC); ISSN(Print):2249-6831 ; ISSN(Online): 2249-7943 ; Vol. 5, Issue 4, Aug 2015, 71-82.
15. Sonali Patil, and Dr. V. R. Udipi, "A Computer Aided Diagnostic System for Classification of Brain tumors using Texture features and Probabilistic Neural Network" in International Journal of Computer Science Engineering and Information Technology Research, Transteller Publication (TJPRC); ISSN(Print):2249-6831 ; ISSN(Online): 2249-7943 ; Vol. 3, Issue 1, March 2013, 61-66., Jan-Feb-Mar 2013 edition.
16. Sonali Patil, and Dr. V. R. Udipi, "Preprocessing to be considered for MRI and CT images containing tumors," International Organization of Scientific Research-Journal of Electrical and Electronics Engineering (IOSR-JEEE), 1(Issue 4), (July-Aug. 2012), PP 54-57. ISSN: 2278-1676

Conferences

1. A. Parmar, S. Gada, T. Loke, Y. Jain, S. Pathak and S. Patil, "Secure E-Voting System using Blockchain technology and authentication via Face recognition and Mobile OTP," 2021 12th International Conference on Computing Communication and Networking Technologies (ICCCNT), 6-8 July 2021 2021, pp. 1-5, doi: 10.1109/ICCCNT51525.2021.9580147
2. P. Dubal, S. Bhatt, C. Joglekar and S. Patil, "Skin cancer detection and classification," 2017 6th International Conference on Electrical Engineering and Informatics (ICEEI), Langkawi,

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Malaysia, 2017, pp. 1-6, doi: 10.1109/ICEEL.2017.8312419.

3. Sonali Patil, Dr. V. R. Udipi and P Bhogale, An Efficient CAD System for Detection and Classification of Tumors in Mammographic Images using Variety Features and Probabilistic Neural Network, presented in Confluence 2013: The Next Generation Information Technology Summit (4th International Conference) (ISBN: 978-1-84919-846-2) on 27th September, 2013 and published in IET Digital Library. DOI: 10.1049/cp.2013.2303
4. Sonali Patil, and Dr. V. R. Udipi, “Segmentation of Preprocessed MR and CT Images Containing Tumors using Edge Detection and Watershed Segmentation”, submitted to 3rd International IT Summit Confluence 2012 - The Next Generation Information Technology Summit and published in CONFLUENCE special issue with International Journal of Computer Applications(Foundation of Computer Science, New York, USA) on September 17, 2012.

Books/Book Chapters

1. Pathak S.P., Patil S.A,” Analysis and Evaluation of Pre-processing Techniques for Fault Detection in Thermal Images of Solar Panels”, In: Shetty, N.R., Patnaik, L.M., Prasad, N.H. (eds) Emerging Research in Computing, Information, Communication and Applications. Lecture Notes in Electrical Engineering, vol 928, pp 673–690, 2023, Springer, Singapore. https://doi.org/10.1007/978-981-19-5482-5_59
2. Ahuja, S.N., Patil, S.A. (2022). Geospatial Object Detection for Scene Understanding Using Remote Sensing Images. In: Chen, J.IZ., Tavares, J.M.R.S., Iliyasu, A.M., Du, KL. (eds) Second International Conference on Image Processing and Capsule Networks. ICIPCN 2021. Lecture Notes in Networks and Systems, vol 300. Springer, Cham. https://doi.org/10.1007/978-3-030-84760-9_11
3. Kartik Pinakin Desai, Mihir Akshay Shah, Mansi Chetan Lapasia, Sonali Atulkumar Patil, Sujata P Pathak, “Applied Intelligence for Mental Health Detection: ManoVaidya–A Mental Health Therapist”, Handbook of Research on Applied Intelligence for Health and Clinical Informatics, IGI Global, 2022. PP 80-91
4. Maddala S., Patil S. , “Agentless Automation Model for Post Exploitation Penetration Testing” In: Pandian A., Ntalianis K., Palanisamy R. (eds) Intelligent Computing, Information and Control Systems. ICICCS 2019. Advances in Intelligent Systems and Computing, vol 1039. Springer, Cham, 2020
5. Tirodkar, V., Patil, S. (2020). Proposed Infrastructure for Census Enumeration and Internet Voting Application in Digital India with Multichain Blockchain. In: Vasudevan, H., Michalas, A., Shekoker, N., Narvekar, M. (eds) Advanced Computing Technologies and Applications. Algorithms for Intelligent Systems. Springer, Singapore. https://doi.org/10.1007/978-981-15-3242-9_22
6. Kathawala F., Shah A., Shah J., Vora S., Patil S. (2020) Brain Tumor Detection and Classification. In: Sharma H., Govindan K., Poonia R., Kumar S., El-Medany W. (eds) Advances in Computing and Intelligent Systems. Algorithms for Intelligent Systems. Springer, Singapore. 03 January 2020. PP- 547-556 (April 13-14 2019 Conference date) (Print ISBN 978-981-15-0221-7, Online ISBN 978-981-15-0222-4) DOI: https://doi.org/10.1007/978-981-15-0222-4_52

Details of Research / consultancy / projects:

1. Real Time Surveillance system for missing children applied to SERB (26L). Provisionally accepted for further processing

FDPs/Seminars/Workshops/Training Programs Attended/ Organized/ Delivered

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Attended

1. A National Level Workshop for Higher Education Institutions on Transformation through NAAC Accreditation Process on June 21 and June 22, 2021
2. IUCEE Annual Leadership Summit 2021 from July 9, 2021 to July 11, 2021
3. FDP on Cyber Security by AICTE Training and Learning (ATAL) Academy from February 8, 2021 to February 12, 2021
4. National webinar on NAAC: Systematic Data Organization and Presentation by VIT, Mumbai on May 16, 2020
5. One-Day Workshop on "Filling AQAR Under New NAAC Guidelines" organized by IQAC Cell in Collaboration with IQAC Cluster India on 30 July, 2019 at KET's V.G.Vaze College, Mulund East.
6. Training on Moodle: Learning management System (LMS) on September 20, 2019 at KJSCE
7. Five-Day Train the trainer workshop for IQAC coordinators organized by RUSA at B. K. Birla college of arts, science and Commerce, Kalyan from December 12 to 16, 2018
8. A three phase Leadership Development Program under IQAC conducted on January 12 & 13, 2018 (Phase1), April 30 & May 01, 2018 (Phase2), October 26 & 27, 2018 (Phase3)
9. Two Day training on "Burp Suite – Web Application Security Tool" on 04th and 5th September 2018
10. Reference Management training program on Aug 11, 2018 from 11.00 am - 1.00 pm organized by The Research Promotion - SIRAC team of Somaiya Vidyavihar.
11. Matlab Hands-on and broadcast workshop on July 31, 2018
12. STTP on "Hands-On in Block Chain Technology and Crypto Currency" from July 2 to July 7, 2018 at KJSCE, Mumbai.
13. Two days "Leadership development Program: Phase 1" organised by IQAC-KJSCE
14. Training program on Academic Audit for effective curriculum evaluation and implementation (MH 05) from 18 to 22 Dec 2017 at NITTR, Extension Centre Pune.
15. Two-Week AICTE approved FDP on "Pedagogy for Online and Blended Teaching-Learning Process(FDP201x)", under PMMMNMTT by IITB from 14 September to 12 October 2017.
16. Two-Week AICTE approved FDP on "Foundation Program on ICT in Education (FDP101x)" under PMMMNMTT by IITB from 03 August to 07 September 2017.
17. Workshop on Inclusive Education Pedogogy for Science and Engineering Schooling to the Persons with Disabilities at KJSCE on August 23, 2017
18. MEDIC 2017-Medical Device Innovation Camp jointly organized by IIT Bombay, COE Pune, IIT Bombay and VNIT Nagpur from 13-17 Sept 2017 at COE, Pune.

Organized

1. Planned and Organized a Day-long M.Tech Orientation 2021 in October 2021
2. Organized DSY Student orientation with Exam In-charge in October 2021 and also presented to the
3. students the academic and non-academic facilities available at KJSCE
4. Organized Data Science and Artificial Intelligence with MATLAB workshop delivered by Mathworks team for students and faculty members with Dean RIM on September 8, 2021
5. Organizing Committee member for MEDHA 2019 at Haffkin's Institute of Training, Research and Testing on 13th and 14th July 2019
6. Organised Quality Week in 2018 and 2019 for faculty members which consisted of week-long events/activities
7. Planned and Organised Orientation programs for newly joined faculty members January 03 & 04, 2018
8. Awareness session on "Cyber security and Cyber Crime for FY students in collaboration with Outreach Centre KJSCE on September 27, 2018
9. Organized Leadership development program which was executed in three phase in 2018-2019
10. Organizing committee member for Medical Device Hackathon-MEDHA 2018 on July 07 & 08, 2018

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11. Organized One Day workshop on “Inclusive Education Pedagogy for Science and Engineering Schooling to the Persons with Disabilities” on August 23, 2017 in association with Department of Computer Engineering
12. Planned and Organized a 3-Day Training Program Newly Designated HODs, Deans and other Functional Heads” from 6-8th June, 2017
13. Quality week 2019 was planned with a specific theme of research related sessions
14. Support in Organizing several Google App for Education hands on workshop for faculty and staff members of Somaiya Vidyavihar (SVV) as one of the GoogleApp coordinator with SVV IT team.
15. A talk for ME Information Security students on “Modern Stream Cipher” on November 21, 2014 delivered by Prof. Manish Potey.
16. Organizing committee member for National Conference on “Emerging trends in computers, communication and Information Technology”, March 20-21, 2009.
17. In-Charge of tech committee for the STTP “Open Source Softwares : An effective way of managing Engineering Education” held in KJSCE by Department of Computer Engineering
18. Organized and Conducted Two-Days workshop on ‘SCILAB’ for the Faculty of Mathematics
19. A seminar On “Desktop and Server based Systems” for the Faculty and Final Year Students of Computer Department in KJSCE.

Delivered (EXPERT/ JUDGE /TALKS/SESSIONS)

1. Reviewer for 4th International Conference on "Advances in Science & Technology (ICAST - 2021)" at K J Somaiya Institute of Engineering & Information Technology, Sion, Mumbai
2. Review publication for Mathematical Biosciences and Engineering, AIMS Press
3. Reviewer for International Conference ICACC-2020 by RAIT, Mumbai
4. Reviewer for Ethically Driven Innovation and Technology for Society- PhD Edits 2020 (September 2020)
5. Board of Studies member in Computer Science of the S. K. Somaiya Collee (A Constituent Academic Unit of Somaiva Vidvavihar University) from January 2020
6. Delivered session on Image Processing in Mechatronics” on 27th December 2019 in One week AICTE-ISTE approved training Program on Emerging Trends in The Field of Mechatronics 23rd – 27thDecember, 2019
7. Delivered Webinar in IUCEE Webinar Series on "Quality Initiatives at K.J.Somaiya College of Engineering" on Wed December 11, 2020 at 4:30 pm IST
8. Member of committee to appoint the examiners for Ph.D students admitted in 2019 in ETRX department, Oct 2019.
9. Reviewer for Colloquium on Ethically Driven Innovation and Technology for Society (PhD EDITS 2019) to be held at Amrita School of Engineering, Bangalore on 18 August 2019
10. External examiner for Sem VIII project presentation in CE&IT department on 17th May 2019 at 11:00 in VJTI, Mumbai
11. Conducted lectures for PhD students as part of their course on Research Methodology (computer applications-03), Image Processing (07) and ML (06)
12. Session Chair for ICAST 2019 International conference in March 2019 at KJSIEIT, Mumbai
13. Reviewer for ICAST 2019 International conference in March 2019 at KJSIEIT, Mumbai
14. Reviewer of KJSCE Internal research recognition awards-2018-2019 (for the period 2016-18)
15. Taken lectures on Image processing techniques in biotechnology and biomedical applications for Audit course “Biology for Engineers” in Odd term of 2018-19. I was also involved in designing the same
16. Examiner for M.Tech examination at MITCOE Pune for two students on October 01, 2018
17. Expert for “Manuscript Presentation” Course for Ph.D in Computer Engineering, NMIMS, Shirpur Campus on May 22, 2017.
18. Reviewer for Third International Conference on Computing, Communication, Control And Automation 2017 (ICCUBEA – 2017) organized by Pimpri Chinchwad College of Engineering, Pune.

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19. Speaker for a session on “Image Processing in Health Care” in AICTE-ISTE Approved STTP on "Bioinformatics: Emerging Research Trends and Applications:" from June 27 - July 1,2017 at KJSCE, Vidyavihar
20. Session on “Internal Quality Assurance Cell: Roles and Functions And Annual Compliance norms” in a
21. 3-Day Training Program Newly Designated HODs, Deans and other Functional Heads organized by IQAC-KJSCE on 8th June, 2017

Notable Positions and Responsibility

1. Associate Dean, Academic Programmes from July 2021 onwards
2. Member Internal Quality Assurance Cell (IQAC) SVU from September 2021 onwards
3. Coordinator, Internal Quality Assurance Cell (IQAC) from February 2017 to June 2021
4. Head of Department, Information Technology from July 2009 to November 2013.
5. Member of Exam Committee, Biomedical Engineering and Technology Incubation Centre (BETiC- KJSCE), etc
6. Ex Member of Unfair Means Committee for handling malpractices in examinations , Department Exam Committee, Grievance Redressal Cell- Faculty & Staff, PG Admission committee, PUSH KJSCE Committee, NACC and NBA Core Committee, College Development Committee etc.
7. Life Member of Indian Society of Technical Education, New Delhi, India since 2003

Date:09 /02 / 2023

Dr. Sonali Patil
Signature of Faculty Member