

Name of Teaching Staff	:	Dr. Vishakha Vivek Kelkar	
Designation	:	Associate Professor & Associate head	
Department	:	Electronics & Telecommunication Engineering	
Date of Joining the Institution	:	16.10.2006	
Email ID	:	vishaka.kelkar @djsce.ac.in	
Office Contact	:	022-42331212 Extn 111225	
Google Scholar Link	:	https://scholar.google.com/citations?user=2CErg1wAAAAJ&hl=en	
Researchgate Link:		https://www.researchgate.net/profile/Vishakha-Kelkar-2	
ORCID		https://orcid.org/0000-0002-1749-7047	
Qualifications with Class / Grade	:	1. Ph.D. in Electronics & Communication Engineering from SNDT Women's University on Topic "Investigation of Watermarking Techniques for Medical Images" in June 2022. 2. M.E. – Electronics Engineering from University of Mumbai in May 2003, 1st class with Distinction 73.88%. 3. B.E. (Electronics Engineering) from University of Mumbai in June 1992, 1st class 63.3%.	
Total Experience in Years	:	<u>Teaching: 31 years</u> 1. Assistant Professor, D.J. Sanghvi College of Engineering from 16.10.2006 till date. 2. Senior Lecturer, Thadomal Sahani Engineering College, from January 1999 to October 2006 3. Lecturer, Premilila Vithaldas Polytechnique, SNDT University from July 1993 to December 1996.	
Other Achievements:	:	• Member of Advisory Board at Thakur College of Engineering, Mumbai, for the Department of Electronics and Telecommunication since August, 2022. • First Rank in the Mumbai University in ME(Electronics) in 2003 • Best Teacher award in 2010 at D. J. Sanghvi College of Engineering • Received Certificate of appreciation-TI Embedded System Design, Texas instruments, Jan-April 2021 • Appreciation certificate from NPTEL as active SPOC since the starting of the Local Chapter at D. J. Sanghvi College for July-Dec 2016, Jan-April 2017, July-Dec 2017, Jan-April 2018, July-Dec 2018, Jan-April 2019, July-Oct 2019, Jan-July 2020, July-Dec 2020, Jan-Dec 2021, Jan-April 2022, July-Dec 2022, Jan-April 23, July-Dec 23. • As DJSCE IBM SPOC, coordinated numerous activities for IBM enrolled students like Paper presentations, Miniproject under IBM experts, Internship of eight weeks for students at Phemesoft (sister concern for IBM). Currently three undergrad students are working with IBM experts on their research work as interns. • Mumbai University Minor research Grant in 2013-14 of 20000/-- Rs • Mumbai University Minor research Grant in 2016-17 of 10000/-- Rs. • Attended many FDPs, STTPs, webinars and completed many online courses. The detailed list follows. • Published papers in reputed Journals and Conferences (IEEE, Springer. Scopus indexed conferences etc.) The detailed list follows	
Publication details		Scopus Indexed Documents:15 , Citations:99, h-index:7	

Papers Published in Journal:	International: 1. Adit Vakil, Manavi Jain, Shweta Joshi, Dr. Vishakha Kelkar "Evaluating Machine Learning Algorithms for Accurate Diagnosis and Early Detection of Brain Stroke, Heart Attack, Thyroid, and Diabetes" Journal of Engineering and Technology Management 73 (2024). 2. Kelkar, Vishakha, and Kushal Tuckley. "Performance Evaluation of DCT Based Watermarking with Fuzzy Based Blind and Non Blind Techniques for Medical Images." Journal of Seybold Report ISSN NO 1533: 9211, Volume 15 - Issue 9 - 2020. 3. Kelkar, Vishakha, Kushal Tuckley "Novel variants of a histogram shift-based reversible watermarking technique for medical images to improve hiding capacity." Journal of healthcare engineering 2017 (2017) 4. Kelkar, Vishakha, and Kushal Tuckley. "DCT based reversible watermarking technique for Medical Images with improved quality of watermarked image." International e-Conference on Recent Trends in Electronics, Computing and Communication Engineering, Journal of Critical Reviews 7.5 (2020): 1433-1439.
Papers Presented in Conferences	: International national Conferences: 1. Ishann Shrivastava, Asim Wadhva, Adit Vakil, Soumil Shah, Vishakha Kelkar, "Resume Screening - Testing for Data Stability", IEEE conference Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSSES 2023) ,14 - 15 December, 2023 2. Abhijay Rane,Ishan Thanekar,Yuganter Bhasin Vishakha Kelkar (May 2023), Stock Movement Using State-of-the-art Transformer Model, Scopus indexed International Conference ICACECSBD-2023 Web of Science , May 2023. 3. Prajapati, D., Tripathi, A., Mehta, J., Jhaveri, K., & Kelkar, V. (2021, December). Credit Card Fraud Detection Using Machine Learning. In 2021 International Conference on Advances in Computing, Communication, and Control (ICAC3) (pp. 1-6). IEEE. 4. Bhavya Sakhani, Dishay Shah, Vishakha Kelkar Remote ECG Monitoring System using IoT and machine Learning, ICWICOM 21, Springer 5. Fernandes, S., Vashi, H., Shetty, A. and Kelkar, V., 2019, December. Adaptive Contrast Enhancement using Fuzzy Logic. In 2019 International Conference on Advances in Computing, Communication and Control (ICAC3) (pp. 1-6). IEEE 6. Kelkar, V., Revathi, A. S., & Tuckley, K. (2019, July). Analysis of Different Font Types and Sizes for High Quality Watermarked, Extracted Watermark and Medical Images Using HS Based Reversible Watermarking. In 2019 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT) (pp. 1-7). IEEE. 7. Kelkar, V., & Tuckley, K. (2018, October). Reversible watermarking for medical images with added security using chaos theory. In 2018 3rd International Conference on Communication and Electronics Systems (ICCES) (pp. 84-87). IEEE. 8. Mehta, Jinal H., and Vishakha Kelkar. "Comparison of reversible watermarking using prediction error expansion and prediction error expansion considering region of interest for medical images." Convergence in Technology (I2CT), 2017 2nd International Conference for. IEEE, 2017. 9. Mehta, Jinal H., Vishakha Kelkar, and Kushal Tuckley. "A robust reversible watermarking technique based on prediction error expansion using ECC." Advances in Computing, Communications and Informatics (ICACCI), 2017 International Conference on. IEEE, 2017. 10. Kelkar, V., Mehta, J. H., & Tuckley, K. (2018). A novel robust reversible watermarking technique based on prediction error expansion for medical images. In Proceedings of 2nd international conference on Computer Vision & Image Processing (pp. 131-143). Springer, Singapore. 11. V. Kelkar, H. S. Nemade "Reversible Watermarking In Medical Images Using Histogram Shifting Method with Improved Security and Embedding Capacity."

		2016 IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology. 12.H. S. Nemade, V. Kelkar “Reversible Watermarking for colored Medical Images Using Histogram Shifting Method,”2016 IEEE 3rd Int. Conf on Comp for Sust Glob Devpt pp. ISBN 978-93- 80544-20- 5, 3914–3918, 2016. 13.Save, Pallavi N., and Vishakha Kelkar. "An Improved Image Compression Method using Vector Quantization for Color Images." International Conference on Computer Technology (ICCT 2015) 14.Avasare, Minal, and Vishakha Kelkar. "Image Encryption using Chaos Theory." International Journal of Global Technology Initiatives 3.1 (2014): B135-B142. 15.Save, P. N., & Kelkar, V. (2014). An Improved Image Compression Method using LBG with DCT. IJERT Journal, 3. 16.Kulkarni, Shivali, and Vishakha Kelkar. "Classification of multispectral satellite images using ensemble techniques of bagging, boosting and adaboost." Circuits, Systems, Communication and Information Technology Applications (CSCITA), 2014 International Conference on. IEEE, 2014. 17.Kar, Shivali A., and Vishakha V. Kelkar , “Satellite Image Classification Using Neural Networks”, National Conference on Advanced Computing and Information Technology,NACIT13 18.Shivali, A. K., & Vishakha, V. K. (2013). Supervised and Unsupervised Neural Network for Classification of Satellite Images. Int. J. Comp. Appl, 25. 19.Patki, P. S., & Kelkar, V. (2013). Classification using different normalization techniques in Support Vector Machine. International Journal of Computer Applications, 975, 8887. 20.Patki, P. S., & Kelkar, V. V. (2013, January). Support vector machine and various methods of multi-spectral satellite image classification. In 2013 International Conference on Advances in Technology and Engineering (ICATE) (pp. 1-5). IEEE. 21.Kar, S. A., & Kelkar, V. V. (2013, January). Classification of multispectral satellite images. In 2013 International Conference on Advances in Technology and Engineering (ICATE) (pp. 1-6). IEEE. 22.Kinjal Shah, Sandhya S and Vishakha V. Kelkar.” Ensemble classifies for satellite images”, NCCT – 2011 23.Teashree Morje, Mayank Desai, Vishakha Kelkar, “Visual Cryptography”, Technofocus, Volume 2 , October 2011 24.S. Sandhya, Jigar Gada, Arjun Ankaleshwaria, Vishakha Kelkar, K.S. Kinage , “ Iris Recognition ” , Technofocus, Volume 2, October 2011 25.Dhruvil Shah, Jay Kandhar, Jay Patel and Vishakha Kelkar, “ JPEG 2000 review ”, Technofocus, Volume 2, October 2011 26.Nisarg shah, Yashkumar Tolia and Vishakha Kelkar “Water marking of digital images using chaotic Signals”, Technofocus, Volume 2, October 2011 27.Vishakha kelkar, Mrinal Patwardhan, “ Image Encryption using Chaos ”, National Conference on Information & Communication Technology NCICT-2009 28.Mrinal Patwardhan , Vishakha Kelkar, “ Encryptions of Multiple Images using Chaotic Maps”, International Conference on Signal and Image Processing 2009
Area of Specialization		Machine Learning Image Processing Data Compression and Security
Professional Memberships	:	Life Member of ISTE Life Member of IETE Membership No.: LM34950 Membership No.: M14651

Subjects Taught	<u>UG Level:</u> • Image Processing and Machine Vision • Data Compression and Encryption • Neural Networks and Fuzzy Logic • Probability and Random Processes • Microprocessors and Microcontrollers • Computer Organization and Architecture • ADIC • Random Signal Analysis <u>PG Level:</u> • Statistical Signal Processing • Network and Cyber Security
Projects Guided	<u>UG Level:</u> • Line tracking Humanoid Robot • Stock market prediction using ensemble of neural networks • Programmable microfluidics using microcontroller • Prediction of present value of bank bonds using ensemble neural network • High precision robotic arm for sorting and stacking of goods using computer vision • Digital water marking technique for medical images. • Wearable Fitness Band using FRDM board and sensors like accelerometer & gyro meter • Pothole detection using accelerometer and GPS • Autonomous surveillance robot using simultaneous localization and mapping • Self and secure parking car • Aiding Mergers and acquisitions using Neural Networks • Raag Identification using TensorFlow • Smart garbage management system • Self-driving car using Rpi • Gesture Control based Robotic Arm • Crack Detection System using Unmanned Aerial Vehicles and digital Image Processing <u>PG Level:</u> • Fractal Image Compression,2007 • Multi Spectral Satellite Image Classification using Neural networks,2014 • Multi Spectral Satellite Image Classification using SVM, 2014 • Image Encryption using Chaos Theory,2015 • Image Compression using DCT and Vector quantization, 2015 • Reversible watermarking for Medical Images using Histogram Shift Technique, 2017 • Reversible watermarking for Medical Images using Prediction Error expansion, 2018

Recommended Students for Higher Education	Name of the Student Mayank Ambaliya Bhagya Parekh Naineel Shah Chintan Buch Poras Singaporla Zeel Thakkar Hrishikesh Jadhav Yash Parekh Keval Kamdar Shraddha Sutar Ushita Palande Siddhesh Jagtap Shane Fernandes Bhavy Sakhani Harshini Patani Elton Rodrigues Aishwarya Acharya Abhishek Bane Bhavin Shah Suhrid Subramaniam Heetika Gada Kashish Shah Dishay Shah	University/Industry CMU Columbia University Northeastern University Georgia Institute of Technology CMU Stevens Institute of Technology Columbia University University of Maryland Georgia Institute of Technology University of Illinois Urbana Champaign University of Southern California Arizona State university Purdue University University of Michigan, Ann Arbor Cornell Tech University of Wisconsin Madison University of California, Berkley Indiana University, Bloomington Boston University University of California, San Diego Columbia University Northeastern University University of Illinois Urbana Champaign
Institute/Department Responsibility handled:	• Department Associate Head • Vice Chairperson Admission committee • Coordinator for Institute Academic Audit • SPOC for DJSCE IBM Advanced Technology courses since August 2019 • SPOC for DJSCOE NPTEL Local Chapter since July 2016 • Coordinator For Value Added Program: Sap Training, at institute level • Member of Library Committee from 2010 till date • Preceding Officer for Internal Complaints Committee • Member of Sexual Harassment Committee • Member of Anti Ragging Cell till date • Worked as one of the Chief Conductor of Examination during AY 2017-18 • Member of Attendance committee in 2016 • Worked as invigilator to monitor regularity and Punctuality of lectures/Practical • Member of Women Development Cell • Member of Internal Audit committee for NBA to evaluate progress of NBA work in 2012 • Member of Admission committee from 2008 to 2016 • Worked as Member of Unfair Means Committee • Department NBA Program Coordinator since January 2018, January 2022 • Department NAAC Program Coordinator till 2024 • NPTEL department coordinator since July 2016 • Department Lab Purchase coordinator till Dec 2017 • Class Teacher for BE during 2012-13, TE for 2011-12, TE 2010-11 and 2022. BE from 2-14 to 2018.	

Details of FDPs/STTPs/Webinars/MOOC/ Coursera courses completed

Sr. No	Details of FDP/STTP/Workshops completed	Dates / duration
1	Successfully completed NPTEL “Outcome based Pedagogic Principles for Effective Teaching ” with elite plus silver certificate which is AICTE approved FDP by NPTEL	4 weeks Feb-March 2024.
2	Successfully completed NPTEL “Design Thinking – A Primer ” with elite plus silver certificate in Top 2% Toppers, which is AICTE approved FDP by NPTEL	4 weeks Jan-Feb 2024.
3	Successfully completed NEP 2020 Orientation & Sensitization Programme under the Malaviya Mission Teacher Training Programme (MM-TTP) of the University Grants Commission (UGC) Organized by UGC-Malaviya Mission Teacher Training Centre, Sant Gadge Baba Amravati University, Amravati (Maharashtra)	05th February, 2024 to 14th February, 2024
4	Successfully completed One Weeek National Level FDP on “Empowering Academics through AI Tools” organized by Golul Global university, Career Development Cell	24th Oct to 30th Oct 2023
5	Successfully completed One Weeek National Level FDP on “Exploring the Educational Potential of CHATGPT” organized by Golul Global university, Career Development Cell	11th September to 17th September 2023
6	Successfully completed NPTEL Workshop on “21st Century Teaching and Learning Skills”	20th Jan, 2024
7	Successfully completed NPTEL “Teaching and Learning for Engineering ” with elite plus silver certificate which is AICTE approved FDP by NPTEL	4 weeks Jan-April 2023.
8	“Emerging Technologies In Machine Learning” ISTE approved FDP organized by D. J. Sanghvi Engineering college Mumbai	One week 30th January 2023 to 3rd February 2023.
9	“Artificial Intelligence Towards Data Science Applications” online ISTE approved STTP/FDP organized by Vidyavardhini's College of Engineering & Technology Mumbai.	Two weeks 27th June 2022 to 8th July 2022.
10	“Inculcating Universal Human Values in Technical Education”, online FDP organized by All India Council for Technical Education(AICTE)	5-day online FDP 20-42 Dec 2021
11	“Internet of Things: Concepts and Implementation” , online AICTE Training And Learning (ATAL) Academy at SVKM'S NMIMS SCHOOL OF BUSINESS MANAGEMENT - INDORE.	One week ATAL FDP 13-17 Dec 2021
12	“ADSP : Road map to machine learning” at D. J Sanghvi College of Engineering	One week FDP 7nd January to 11th January, 2020.
13	“Security Issues & Role of Cryptography in Communication” organized by Department of Electronics and Communication, UMIT, SNDTWU, Mumbai, India.	One week FDP 22nd - 26th June, 2020
14	“Python 3.4.3 Training” offered by the Spoken Tutorial Project, IIT Bombay	One month Training - Spoken Tutorial May 2020
15	Two days FDP on Campuswide MATLAB Tools	23rd and 24th April, 2020

16	FDP on Industry Perceptive on Cyber Security By TCS	27th January, 2022
17	“Wavelets” at D. J Sanghvi College of Engineering	Two Days 2nd and 3 rd August, 2019.
18	“Active Teaching Learning Strategies Using Innovative Technology” at D. J Sanghvi College of Engineering	Two day FDP 25-26 February 2019.
19	Short term training program on “Recent Trends in Wireless networks” at D. J Sanghvi College of Engineering, AICTE-ISTE approved	One week STTP 2nd Jan 2019 to 7th Jan 2019.
20	Successfully completed NPTEL “Effective engineering Teaching in Practice” with elite certificate which is AICTE approved FDP	4 weeks Jan-April 2018.
21	Successfully completed AICTE-ISTE approved STTP on “Insights of Machine Learning and Deep Learning” at D. J Sanghvi College of Engineering	One week STTP 2nd July 2018 to 6th Jan 2018
22	Represented college at One Day State Level workshop on ”Enhancing Quality of Technical Education :Issues and Challenges” at Thakur College of Engineering	21st Feb. 2018
23	Represented College at NPTEL workshop for SPOCs at IIT Mumbai,	5th July, 2016
24	Represented College at NPTEL Awareness workshop at K. J. Somaiya Institute of Engineering and Information Technology , Sion in collaboration with NPTEL.	8th January, 2016
25	One day Seminar on MATLAB & Simulink For engineering Education	7Th September, 2012
26	ISTE approved STTP on Contemporaneous Pedagogy For Trainer Empowerment at Thadomal Shahani Engineering College	Two Weeks 8Th November to 18th November , 2011
27	QIP Short Term Course on “ Satellite Image Processing and Analysis “ conducted by IIT Bombay	One Week 3rd January to 7th January. 2011
28	Workshop on “Mathematics for Engineers” organised by D. J. Sanghvi College of Engineering	Two Days 6th and 7th February, 2008
29	Workshop on “Industry-University Interaction and implementation for technology Development” organised by Mumbai University	22nd and 23rd February, 2007
	Coursera Courses and Webinars	
30	ISTE approved STTP on “Microcontroller and Embedded system Design” organised by D. J. Sanghvi College of Engineering	Two Weeks 27th November to 7th December , 2007.
31	Project: Introduction to Data analysis using Microsoft Excel by Coursera	17th August, 2022
32	Project: Tracking Objects in Video with Particle Filters	27th June, 2022
33	Machine Learning with Python by IBM	22nd June, 2022 6 Weeks

34	The Teacher's Social and Emotional Learning	28th February, 2022 5 Weeks
35	Fundamentals of Digital Image and Video Processing	11th February, 2022 11 weeks
36	Supervised Machine Learning: Regression By IBM	27Th December, /2021
37	Machine Learning for All	24th November, 2021 4 weeks
38	Programming for everybody (Getting started with Python), University of Michigan	4th January, 2021 (7 weeks)
39	Learning to teach online by Coursera	1st August, 2020 4 weeks
40	Practical teaching with technology by Coursera	17/7/2020 , 4 weeks
41	Machine Learning by Stanford University	3/06/2020, 11 weeks 11 weeks
42	One day webinar on Connected vehicles by TCS	25th August, 2020
43	One day Webinar on Roadmap to 5G Technology at DJSCE	31st July, 2020
44	One day Webinar on “Intellectual Property Right” by TCS 44 Vishakha kelkar	24th August, /2020
45	Two days Webinar series on “ Recent trends in Microwave Engineering and Internet of Tings” by D. J. Sanghvi Engineering College, EXTC department	6th and 7th June, /2020