Name of Teaching Staff	:	Ruhina B. Karani
Designation	:	Assistant Professor
Department	:	Computer Engineering
Date of Joining the Institution	:	05/07/2013
Email ID	:	ruhina.karani@djsce.ac.in
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Vidwan Link	https://djsce.irins.org/profile/303839
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ORCID	https://orcid.org/0000-0002-1939-5247
Publons Researcher ID :	https://publons.com/researcher/4620799/ruhina-karani/

Qualifications with Class / Grade	:	1. Ph.D. (Pursuing) 2. M.E. Computer Engineering from University of Mumbai, First class with Distinction 3. B.E., Computer Engineering from University of Mumbai, First Class with Distinction
Total Experience in Years	:	16 Years 1. Assistant Professor, in computer engineering department of D. J. Sanghvi College of Engineering since 05/07/2013 till date. 2. Assistant Professor (Adhoc), in information technology department of D. J. Sanghvi College of Engineering From 20.7.2011 to 30.6.2013. 3. Lecturer, K.J. Somaiya College of Engineering from 5.1.2009 to 19.7.2010. 4. Lecturer (Temp.), K.J. Somaiya College of Engineering from 24.3.2008 to 26.12.2008.
Papers Published in Journal:	:	1. Published a paper on "An Efficient Dual Space Curriculum Learning Approach for Speech Emotion Recognition", Signal, Image and Video Processing, 2025, DOI: 10.1007/s11760-025-04796-z. 2. Published a paper on "Analysis of Online Interviews: A Framework for Assessing Confidence, Politeness and Emotions Portrayed", SN Computer Science, 2025, DOI: 10.1007/s42979-025-04040-y. 3. Published a paper on "A Semisupervised Learning Approach for Code Smell Detection", SN Computer Science, Vol. 6, Article 143, 2025, DOI: https://doi.org/10.1007/s42979-025-03680-4 4. Published a paper on "CodeWithDisability: A Voice Command-Based Integrated Development Environment for Hands-Free Programming", Procedia Computer Science, 2025, DOI: 10.1016/j.procs.2025.09.062. 5. Published a paper on "WoC SVC: A Model for Enhancing Lullabies Through Personalized Voice Cloning", Procedia Computer Science, Vol. 258, pp. 1565–1575, 2025, DOI: https://doi.org/10.1016/j.procs.2025.04.388

6. Published a paper on "FER-BHARAT: A Lightweight Deep Learning Network for Efficient Unimodal Facial Emotion Recognition in Indian Context", Discover Artificial Intelligence, 2024, DOI: 10.1007/s44163-024-00131-6.

7. Published a paper on "May I Know My EQ? Factors to Automate EQ Prediction Using Technology", Personality and Individual Differences, Elsevier, February 2024, DOI: 10.1016/j.paid.2023.112469.

8. Published a paper on "Prediction of Disease-Gene Associations by an Ensemble of Knowledge Graph Completion", Indian Journal of Science and Technology, July 2024, DOI: https://doi.org/10.17485/IJST/v17i11.83

9. Published a paper on "IndEmoVis: A Multimodal Repository for In-Depth Emotion Analysis in Conversational Contexts", Procedia Computer Science, Elsevier, January 2024, DOI: https://doi.org/10.1016/j.procs.2024.03.200

10. Published a paper on "LayNet—A Multi-Layer Architecture to Handle Imbalance in Medical Imaging Data", Computers in Biology and Medicine, Elsevier, September 2023, DOI: 10.1016/j.compbiomed.2023.107179.

11. Published a paper on "DR-SASV: A Deep and Reliable Spoof Aware Speech Verification System", International Journal on Information Technologies and Security, December 2023, DOI: https://doi.org/10.59035/FFMB8272

12. Published a paper on "Music Recommendation Based on Affective Image Content Analysis", Procedia Computer Science, Elsevier, 2023, DOI: 10.1016/J.PROCS.2023.01.021.

13. Published a paper on "Review on Multimodal Fusion Techniques for Human Emotion Recognition", International Journal of Advanced Computer Science and Applications, SAI, 2022, DOI: 10.14569/IJACSA.2022.0131035.

14. Published a paper on "Tracking of Entities in Multi-Sport Field", Procedia Computer Science, 2015, DOI: https://doi.org/10.1016/j.procs.2015.03.146

15. Published a paper on "3D Visualization of Products for Online Shopping", IJCA, Vol- 132, Issue-5, December-2015.

16. Published a paper on "A survey of Image Registration Techniques using Neural Network", IJCSE, Vol-3, Issue-12, December-2015, ISSN 2347-2693.

17. Published a paper on "Face Aging Simulation", IJCA, Vol-131, Issue-11, December-2015

18. Published a paper on "Detection of Landing Areas for Unmanned Aerial Vehicles", IJCA, Vol-131, Issue-2, December-2015, ISSN 0975-8887.

19. Published a paper on "Predicting Pool Ball Trajectories" International Journal

20. Published a paper on "Interpretation of Indian Sign Language through Video Streaming", International Journal

21. Published a paper on "3D Visualization of Products for Online Shopping"

		International Journal
		22. Published a paper on "Face Aging Simulation" International Journal.
		23. Published a paper on "A Survey of Image Registration Techniques Using Neural Networks"
		24. Published a paper on "Detection of Landing Areas for Unmanned Aerial Vehicles"
		25. Published a paper on "Real Time Eye-Tracking using Web Camera" in International Journal of Engineering Research and Technology, Volume-3, Issue 11, Nov 14
		26. Published a paper on "Tracking of Entities in Multi-Sport Field", International Conference on Advanced Computing Technologies and Applications (ICACTA- 2015), Procedia Computer Science 45 (2015) Elsevier publication, pg. 300 – 304
		27. Published a paper on "2D Satellite Image Registration Using Transform Based and Correlation Based Methods" International Journal of Advanced Computer Science and Applications(IJACSA), 3(5), 2012. http://dx.doi.org/10.14569/IJACSA.2012.030511
Papers Presented in Conferences		1. "Classification of Instagram Users and Prediction of Engagement Rates Using Machine Learning", in ICT: Applications and Social Interfaces (ICTCS 2024), Lecture Notes in Networks and Systems, Vol. 1323, Springer, Singapore, 2025, DOI: https://doi.org/10.1007/978-981-96-4139-0_30
		2. "Guardian Eye: Holistic Parental Control Solution", 2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT), Kamand, India, pp. 1–7, 2024, DOI: https://doi.org/10.1109/ICCCNT61001.2024.10725722
		3. Published a paper on "Detecting Polycystic Ovary Syndrome Through Blending Ensemble Method", in Advances in Data and Information Sciences (ICDIS 2024), Lecture Notes in Networks and Systems, Vol. 1193, Springer, Singapore, 2025, DOI: https://doi.org/10.1007/978-981-97-9619-9_4
		4. "CloneAI: A Deep Learning-Based Approach for Cloned Voice Detection", Data Science and Applications, Springer, 2024, DOI: https://doi.org/10.1007/978-981-99-7817-5_21
		5. "Petpaws: A Comprehensive Dataset and Recommender System for Canine and Feline Breeds", 3rd International Conference on Advanced Computing Technologies and Applications (ICACTA 2023), IEEE, 2023, DOI: 10.1109/ICACTA58201.2023.10393612.
		6. "Enhancing Driver Safety through Real-Time Feedback on Driving Behavior: A Deep Learning Approach", 3rd International Conference on Advanced Computing Technologies and Applications (ICACTA 2023), IEEE, 2023, DOI: 10.1109/ICACTA58201.2023.10392647.
		7. "Pothole Detection and Dimension Estimation System using Deep Learning (YOLO) and Image Processing", International Conference on Image and Vision Computing New Zealand (IVCNZ), IEEE, 2020, DOI: https://doi.org/10.1109/IVCNZ51579.2020.9290547
		8. "Generation of Indian Sign Language by Sentence Processing and

| | | Generative Adversarial Networks", 3rd International Conference on Intelligent Sustainable Systems (ICISS 2020), IEEE, 2020, DOI: 10.1109/ICISS49785.2020.9315979.

9. "English Language Accent Classification and Conversion using Machine Learning", International Conference on Innovative Computing & Communications (ICICC), 2020, DOI: https://dx.doi.org/10.2139/ssrn.3600748

10. "Optimization of Rainwater Harvesting Sites using GIS", 5th International Conference on Geographical Information Systems Theory, Applications and Management (GISTAM 2019), 2019, DOI: 10.5220/0007722302280233.

11. "Deep Learning for Detection and Severity Classification of Diabetic Retinopathy", 1st International Conference on Innovations in Information and Communication Technology (ICIICT 2019), IEEE, 2019, DOI: 10.1109/ICIIT1.2019.8741456.

12. "Baby Mentor: Learning through Images", IEEE Sponsored 2017 International Conference on Innovations in Information, Embedded and Communication Systems (ICIIECS 2017), 2017, DOI: 10.1109/ICIIECS.2017.8276128.

13. "Detection of Landing Areas for Unmanned Aerial Vehicles", 2016 International Conference on Computing Communication Control and Automation (ICCUBEA), IEEE, 2016, DOI: https://doi.org/10.1109/ICCUBEA.2016.7860044

14. "A Deviant Transform Based Approach for Color Image Registration", 2012 International Conference on Communication, Information and Computing Technology (ICCICT 2012), IEEE, 2012, DOI: https://doi.org/10.1109/ICCICT.2012.6398231

15. "Image Registration using Discrete Cosine Transform and Normalized Cross Correlation", International Journal of Computer Application, Digital Library URL http://www.ijcaonline.org/proceedings/icwet2012/number2/5323-1014 (ISBN 973-93- 80864-48-5).

16. "A deviant transform based approach for color image registration", IEEE Explore, October 2012.

17. "Baby Mentor: Learning Through Images" in IEEE sponsored ICIIECS'17 held on 17/03/17 - 18/03/17

18. "Tracking of Entities in Multi-Sport Field", International Conference on Advanced Computing Technologies and Applications (ICACTA- 2015), Procedia Computer Science 45 (2015) Elsevier publication, pg. 300 – 304

19. "Deep Learning for Detection and Severity Classification of Dibetic Retinopathy", 1st International Conference on Innovations in Information and Communication Technology (ICIICT 2019), IEEE Conference Record No:46602, ISBN No:978-1-7281-1603-7 at St. Peter's College of Engineering and Technology, Avadi, Tamilnadu, India on 25th April 2019 |
| Area of Specialization | | Machine Learning, Image Processing and Computer Vision |

PhD Guide ? Give field & University	:	**Field**: **University**:	N/A
PhDs / Projects Guided	:	**PhDs :** **Projects at Masters level:**	N/A
Books Published / IPRs / Patents	:	Books (Editors for conference Proceedings on Springer)	1. Published a book chapter on "CloneAI: A Deep Learning-Based Approach for Cloned Voice Detection" in Lecture Notes in Networks and Systems, Springer, 2024, DOI: https://doi.org/10.1007/978-981-99-7817-5_21 2. Published a book chapter on "LSTM-Based Encoder–Decoder Attention Model for Text Translation and Simplification on the Constitution of India" in Lecture Notes in Electrical Engineering, Springer, 2023, DOI: https://doi.org/10.1007/978-981-99-0601-7_64 3. Published a book chapter on "Applications of Machine Learning in Psychology and the Lifestyle Disease Diabetes Mellitus" in Book "Design of Intelligent Applications Using Machine Learning and Deep Learning Techniques" 1st Edition, Chapman and Hall/CRC ,ISBN9781003133681,2021 4. Published a book chapter on " Combating COVID-19 using object detection techniques for next generation autonomous systems" in Book "Cyber Physical Systems" Ai and COVID-19, Academic Press, Elsevier, https://doi.org/10.1016/B978-0-12-824557-6.00007-8 5. Registered a copyright for " Classification of Facial Expression using CNN", registration no- L104141/2021 6. Registered Copyright for "SahajRiti: A Multimodal Audio Visual Dataset for Indian Emotion Expressions", Registration No.: L-134458/2023, Diary No.: 19263/2023-CO/L, Date: 09 October 2023. 7. Registered Copyright for "Petpaws - Compilation of Data on Canine and Feline Attributes", Registration No.: L-135435/2023, Diary No.: 7064/2023-CO/L, Date: 03 November 2023. 8. Published Indian Patent on "A System for Promoting Plastic Pollution Awareness amongst Young Children through App-Based Gamification", Application No.: 202121058677, Patent Journal No.: 11/2022, Publication Date: 18 March 2022. 9. Published Indian Patent Application on "A Pipeline Traversing Robot", Application No.: 202521045231, Publication No.: 22/2025, Publication Date: 30 May 2025, Field of Invention: Mechanical Engineering, IPC Classification: F16L55/28, F16L101/30, B25J5/00, B25J19/02. 10. Published Indian Patent Application on "IoT Enabled Robot for Detecting Gas Pipe Leakage", Application No.:

			202421078054, Publication No.: 46/2024, Publication Date: 15 November 2024, Field of Invention: Electronics, IPC Classification: F17D5/02, B25J11/00, G08B21/16, B25J9/16, F17D5/06
Professional Memberships	:		ISTE-LM
Grants fetched	:	Minor Research Grant (University of Mumbai)	1. Received minor research grant from University of Mumbai for conducting research on "Optimal Harvesting of Rainwater using Simulation based on GIS and Weather Modeling Systems".
Interaction with Professional Institutions	:	**Guest Lectures:** **Other Achievements and Responsibilities:**	1. Organized AICTE-ISTE Sponsored One week Short Term Training Program entitled, "Insightsof Machine Learning and Deep Learning "from 2nd July 2018 to 6th July 2018 2. Organized One week Faculty Development Program entitled, "R and Python Programming" from 16th July 2018 to 20th July 2018 3. Organized Expert Session on "Imparting Social values and Ethics to Students" 4. Organized an International conference on "Advanced Computing Technologies and Applications (ICACTA-2015)" held in D.J.Sanghvi College of Engineering 5. Organized a national conference on "Emerging Trends in Computers, Communication and Information Technology held in K.J.Somaiya College of Engineering , Mumbai. 6. Organized a State Level Project Competition " DJ ASCII" for Computer and Information Technology Department of D. J. Sanghvi College of Engineering 7. Contributed as a teacher In 2 Week ISTE Workshop on Effective teaching/Learning of computer programming conducted by IIT Bombay under the National Mission on Education through ICT. 8. Conducted expert lecture on "Digital Signal and Image processing" 9. Conducted expert lecture on "Database management systems"
Subjects Taught		**UG Level:** • Deep Learning • Machine Learning • Natural Language Processing • Digital Signal and Image Processing • Human Machine Interaction • Natural Language Processing • Database Management System • Operating Systems • Software Architecture **PG Level:**	

Projects Guided	:	**UG Level: 25+** **PG Level:**	
Recommended Students for Higher Education		**Name of the Student**	**University/Industry** University of Southern California University of California, Irvine University of California, San Diego Purdue University University of California, Santa Barbara University of Texas, Dallas University of Illinois, Chicago University of Minnesota, Twin Cities University of North Carolina, Charlotte University of Georgia
Institute/Department Responsibility handled:		1. Website Coordinator 2. Examination Coordinator 3. Project Coordinator 4. Member of Board of Studies 5. Member of Department Advisory Board 6. Alumni Coordinator 7. F.E. Mentor 8. Member of NBA Committee 9. Member of NAAC Committee 10. Member of admission Committee 11. Class-Incharge	
Pedagogy Development		1. Designed Machine Learning (Sem VI) syllabus under autonomy 2. Designed Deep Learning(Sem VIII) syllabus under autonomy 3. Designed Operating Systems (Sem IV) syllabus under autonomy 4. Designed Digital Signal Processing and Application (Sem VII) syllabus under autonomy 5. Designed Digital Signal and Image Processing (Sem VII) syllabus for University of Mumbai 6. Designed Database Management Systems syllabus for University of Mumbai	