

## Mehul S Raval

### EDUCATION

Degree	University	Duration
Ph.D. (Electronics and Telecommunication Engineering)	<a href="#">University of Pune</a> , India	Sept. 2003 – Mar. 2008
Master of Engineering (Digital Systems)	<a href="#">College of Engineering Pune (COEP)</a>	Aug. 2001 – May 2003
Bachelor of Engineering (Electronics and Telecommunication Engineering)	<a href="#">College of Engineering Pune (COEP)</a>	Jul. 1990 – Aug. 1993

### PROFESSIONAL POSITION

Jul. 2020 -	Professor, School of Engineering and Applied Science, Ahmedabad University, Ahmedabad, India <a href="https://ahduni.edu.in/">https://ahduni.edu.in/</a>
Dec. 2018 – Jul 2020	Professor and Head of the Information and Communication Technology Department, <a href="#">Pandit Deendayal Petroleum University (PDPU)</a> , Gandhinagar, India.
Jul 2013 – Dec. 2018	Associate Professor, Ahmedabad University, Ahmedabad, India <a href="https://ahduni.edu.in/">https://ahduni.edu.in/</a>
Jul. 2008 – Jul. 2013	Assistant Professor, <a href="#">DA-IICT</a> , Gandhinagar, India
Mar. 2005 – Jul. 2008	Assistant Professor, <a href="#">Sarvajanik College of Engineering and Technology</a> , Surat, India
Jun. 1997 – Feb. 2005	Lecturer, <a href="#">Sarvajanik College of Engineering and Technology</a> , Surat, India

**COURSES TAUGHT** (Relevant to the project; M.Tech (Master of Technology), B.Tech (Bachelor of Technology), CSE Computer Science and Engineering)

Code – Name of the Course	Program Semester, University	Year
CSE 518 Artificial Intelligence	B.Tech CSE, Sem VI, Ahmedabad University, PDPU	2018, 2019, 2021
CSE 541 Computer Vision	B.Tech CSE, Sem VI, Ahmedabad University	2013, 2022, 2021, 2017, 2018
CSE 523 Machine Learning	B.Tech CSE, Sem. VI, M.Tech CSE, Sem II, Ahmedabad University, PDPU	2023, 2022, 2021, 2020, 2019, 2018
CSP 310 Digital Signal Processing	B.Tech, Sem VI, Ahmedabad University	2017
Quantitative Engineering Analysis	BS, Sem III, Olin College of Engineering, MA, USA	2016
MAT 518 Probability and Statistical Inference	M. Tech CSE, Sem II, Ahmedabad University	2015
IT 518 Fuzzy Neural Systems	M.Tech Sem. II, DAIICT	2013

### PHD SUPERVISION

Name, Year of joining	Domain	Co-supervisor
Maitrik K Shah, 2021 -	Remote sensing	Srikrishnan Divakaran, Krea University, India
Srishti Sharma, 2021 -	Sports data analytics working with Sacred Heart University Team	Tolga Kaya, Sacred Heart University, USA Srikrishnan Divakaran, Krea University, India
Yagnik Bhavsar, 2022 -	Intelligent Transportation Systems	Mazad Zaveri, Ahmedabad University (Supervisor)
Snehal Rajput, 2019 -	Medical Image Segmentation	Mohendra Roy, PDPU (Supervisor)

### GRADUATED PHD SCHOLARS

Name, Year	Title
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Hiren Galiyawala (2018 – 2022)	<a href="#">Soft biometrics-based person retrieval from unconstrained surveillance video</a>
Rupal Agravat (2014 – 2021)	<a href="#">Robust brain tumor segmentation for overall survival prediction</a>
Vaibhav Joshi (2014 – 2018)	<a href="#">Securing fingerprint images using data-hiding techniques</a>
Niteen B Patel (2019 – 2016)	<a href="#">Target Localization Improving Tracking Accuracy and Energy Efficiency in Wireless Sensor Network</a>

**B.TECH ENGINEERING PROJECT (2022 – 2023; Name of the student – Project Title – Company – Location)**

- Dev Manish Jani, Optimizing Multi-Stage Continuous Manufacturing Process, MVJ Soft Pvt. Ltd, Rajkot, India.
- Shail Nimish Patel, Real-Time fuel prediction of a fishing boat, One Force, NY, USA
- Sameep Nilesh Vani, Multimodal fusion-based Hateful Meme Classification, Sculptsoft Private Ltd, Ahmedabad, India
- Vraj Parikh, Angel Protocol, Pedals Up, Ahmedabad, India
- Deepang Gaurang Desai, Simulating Algorithmic Trading Strategies using Angular, Flask, and Python, Bosleo, Mumbai, India
- Varun Viral Deliwala, Real-time Automatic Number Plate Recognition System, Tusker AI, Ahmedabad, India

**SPONSORED RESEARCH PROJECTS (1 Lac = 100,000)**

PROJECT TITLE	AGENCY	FROM DATE	TO DATE	AMT (Lacs)	STATUS
<b>Co-Investigator</b>					
Design and Development of 5G enabled Intelligent Transportation System in Gujarat	Gujarat Council on Science and Technology (GUJCOST), Govt. of Gujarat	01-Jun-2022	31-Mar-2025	22	In-Progress
Developing Data Analytics Architecture: Applications in Agriculture	Department of Science and Technology, Govt. of India	30-May-2017	31-Mar-2019	28	Completed
Developing Data Content Standards for Data Representation, Sharing and Interoperability (Soil, Forest and Surface Geological Map Data)	Dept. of Science and Technology, Govt. of India	08-Jan-2018	07-Apr-2018	4	Completed
Techniques for Robust Face Recognition with Pose Variations	Board of Research in Nuclear Science, Govt. of India	16-Oct-2012	31-Mar-2015	19	Completed
<b>Investigator</b>					
New Initiatives on Two Wheelers Safety	IEEE Intelligent Transportation Systems Society, IEEE	12-May-2023	31-Dec-2023	16	In-Progress

Semantic Person Retrieval in Surveillance	Gujarat Council on Science and Technology (GUJCOST), Govt. of Gujarat	01-Jun-2022	31-Mar-2025	33	In-Progress
Description-based person identification in unconstrained surveillance video	Board of Research in Nuclear Science (BRNS), Govt. of India	05-Jul-2016	31-May-2019	21	Completed
Securing biometric data using data-hiding techniques	Board of Research in Nuclear Science, Govt. of India	08-Nov-2010	31-Mar-2013	13	Completed

#### ADMINISTRATIVE ACTIVITIES

Organization	Position Held	From Date	To Date	Work Nature
Ahmedabad University	Associate Dean Experiential Learning	21/08/2020	Till Date	Responsible for advancing experiments on project-based learning across all Schools
Ahmedabad University	Chair - Intelligent Transportation Research Cluster	19/12/2020	30/06/2023	Academic, Research, Industry Connect, build Faculty camaraderie
Ahmedabad University	Convener Industry Outreach Committee	22/12/2021	30/06/2023	To improve relationships with industries for industry projects, consultancy, their participation in specific engineering education and research
Ahmedabad University	Member - School Academic Committee	22/02/2021	30/06/2023	Oversight of calendars, Time Tables and Schedules, Curricula, and Examinations across programs. Examples: pedagogy (PBL/Enable), grading policies, course allocations, UG research/projects, allocation of
Ahmedabad University	Member - MTech Curriculum Revision Committee	28/01/2023	30/09/2023	M.Tech CSE Data Science and Analytics curriculum revision
Pandit Deendayal Petroleum University	Head of the Department - ICT	11/10/2019	15/07/2020	Leading the department in Academic, research, and administration
Pandit Deendayal Petroleum University	Member - Central Committee - Data Information Centre	15/07/2019	15/07/2020	Creating a Centralised Data repository and information dissemination

#### PUBLICATIONS

## Books

- [Explainable AI in Healthcare Unboxing Machine Learning for Biomedicine](#), Editors: Mehul S Raval, Mohendra Roy, Tolga Kaya, Rupal Kapdi, [Book Series - Analytics and AI for healthcare](#), Chapman and Hall / CRC, ISBN 9781003333425, DoI: <https://doi.org/10.1201/9781003333425> - First book under the book series.
- [Digital Ecosystem for Innovation in Agriculture](#), Editors: Sanjay Chaudhary, Chandrashekhar M. Biradar, Srikrishnan Divakaran, Mehul S Raval. Book series: [Studies in Big Data](#) (SBD, volume 121), Springer Nature, ISBN 978-981-99-0576-8
- [Data Science in Agriculture and Natural Resource Management](#), Editors: Reddy, G.P.O., Raval, M.S., Adinarayana, J., Chaudhary, S. Series - Studies in big data, Springer Nature, ISBN: 978-981-16-5846-4 DOI 10.1007/978-981-16-5847-1
- Madhuri A. Joshi, Mehul S. Raval, Yogesh H. Dandawate, Kalyani R. Joshi, Shilpa P. Metkar, [Image and Video Compression: Fundamentals, Techniques and Applications](#), Chapman and Hall / CRC, FL, US, 17th Nov. 2014, DOI: 10.1201/b17738-1, Print ISBN 978-1-4822-2822-9 eBook ISBN: 978-1-4822-2823-6

## Journals

1. Snehal Rajput, Rupal Kapdi, Mehul S. Raval and Mohendra Roy, "[Interpretable Machine learning model to predict survival days of malignant brain tumor patients](#)," [Machine Learning: Science and Technology](#), IOPscience <https://doi.org/10.1088/2632-2153/acd5a9>, IF: 6.013.
2. Brinky Desai, Arpitkumar Patel, Vaishwi Patel, Supan Shah, Mehul S. Raval, and Ratna Ghosal. "[Identification of free-ranging mugger crocodiles by applying deep learning methods on UAV imagery](#)." [Ecological Informatics](#), Vol.72, pp. 101874, Dec. 2022. ISSN 1574-9541 IF: 4.498
3. Galiyawala, H., Raval, M.S. & Patel, M. [Person retrieval in surveillance videos using attribute recognition](#). [Springer Journal of Ambient Intelligence and Humanized Computing](#) (2022). <https://doi.org/10.1007/s12652-022-03891-0>, IF: 7.1
4. S. Senbel, S. Sharma, M. S. Raval, C. Taber, J. Nolan, N. S. Artan, D. Ezzeddine, T. Kaya, "[Impact of Sleep and Training on Game Performance and Injury in Division-1 Women's Basketball amidst the Pandemic](#)", in [IEEE Access](#), Vol. 10, pp. 15516-15527, 2022. IF: 3.367 doi: 10.1109/ACCESS.2022.3145368
5. Galiyawala, H., Raval, M.S. [Person retrieval in surveillance using textual query: a review](#). [Multimed Tools Appl](#) 80, 27343–27383 (2021). <https://doi.org/10.1007/s11042-021-10983-0> IF: 2.13
6. Rupal Agravat, Mehul S Raval, "[A Survey and Analysis on Automated Glioma Brain Tumor Segmentation and Overall Patient Survival Prediction](#) " [Archives of Computational Methods in Engineering - State of the art reviews](#), Springer, March 2021 (Online), IF: 6.7, <https://doi.org/10.1007/s11831-021-09559-w>
7. Snehal Rajput, Mehul S Raval, "A Review on End-To-End Methods for Brain Tumor Segmentation and Overall Survival Prediction", [Azerbaijan Journal for High Performance Computing](#), (Invited Paper), Vol. 3, No. 1, June 2020, pp. 119 - 138, DOI: 10.32010/26166127, ISSN: 2616-6127.
8. Veena Iyer, Susanna Abraham Cottagiri, Ayushi Sharma, Divya Nair, Mehul S. Raval, Bhavin Solanki, Dileep Mavalankar, "[Effect of El Niño Southern Oscillations on the incidence of enteric fever in Ahmedabad, India from 1985 to 2017](#)", [Asian Pacific Journal of Tropical Medicine](#), Hainan Medical University, IF: 1.772, Vol. 12, No. 12, pp. 531 - 576, December 2019. DOI:10.4103/1995-7645.272485
9. Hiren Galiyawala, Mehul S Raval, Shivansh Dave, "Visual Appearance Based Person Retrieval in Unconstrained Environment Videos", [Image and Vision Computing](#), Vol. 92, Dec. 2019, Elsevier, IF: 2.7 <https://doi.org/10.1016/j.imavis.2019.10.002> , Available online 24th Oct. 2019.
10. Mehul S Raval, "[Hybrid Project Based Learning in Computer Vision](#)", [The International Journal of Electrical Engineering & Education](#), Sage Publishing, USA, ISSN: 0020-7209, IF - 0.941, <https://doi.org/10.1177/0020720919857632>
11. Vaibhav B Joshi, Mehul S Raval, Minoru Kuribayashi, "Reversible Data Hiding based Compressible Privacy Preserving System for Color Image", [Multimedia Tools and Applications](#), pp. 1 - 26, Oct. 2017, Springer, US <https://doi.org/10.1007/s11042-017-5230-8> , ISSN 1380-7501 Impact Factor: 1.53

12. Jaladhi Vyas, M V Joshi, Mehul S Raval, "Automatic Target Image Detection for Morphing ", Elsevier Journal of Visual Communication and Image Representation, Vol. 27, pp:28-43, Feb. 2015, DOI: <http://dx.doi.org/10.1016/j.jvcir.2014.12.005> Impact Factor:1.36
13. Vaibhav B Joshi, Mehul S Raval, Dhruv Gupta, Priti P Rege, S K Parulkar, "[A Multiple Reversible Watermarking Technique for Fingerprint Authentication](#) ", Springer Multimedia Systems, Published online 18th April 2015, ISSN: 0942-4962 (print version), DOI: 10.1007/s00530-015-0465-6 , Impact Factor: 0.43
14. Jignesh Bhatt, Manjunath Joshi, Raval Mehul S, "[A Data-driven Stochastic Approach for Unmixing Hyperspectral Imagery](#) ", IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Vol.7, No. 6, pp. 1936 - 1946, June 2014 DOI 10.1109/JSTARS.2014.2328597. Impact Factor: 2.87
15. Harikumar, Prakash Gajjar, M V Joshi, Raval Mehul S, "[Multiresolution Image Fusion: Use of Compressive Sensing and Graph Cuts](#) ," IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Vol. 7, No.5, pp: 1771 - 1780, May 2014. ISSN: 1939-1404, DOI: 10.1109/JSTARS.2013.228789. Impact Factor: 2.87

#### Book chapter and conference papers (2023 - 2021)

1. Srishti Sharma, Mehul S Raval, Tolga Kaya, Srikrishnan Divakaran, "[Interpretable Machine Learning in Athletics for Injury Risk Prediction](#)," Explainable AI in Healthcare: Unboxing Machine Learning for Biomedicine, Editors: Mehul S Raval, Mohendra Roy, Tolga Kaya, Rupal Kapdi, CRC Press, ISBN 9781003333425
2. S. Kavaiya, D. K. Patel, M. Zaveri, M. S. Raval and S. N. Merchant, "[VeCEn: A Data Acquisition Framework for Heterogeneous Vehicular Networks](#)," 2023 15th International Conference on COMMunication Systems & NETWORKS (COMSNETS), Bangalore, India, 2023, pp. 60-65, doi: 10.1109/COMSNETS56262.2023.10041287.
3. F. N. Shah, D. K. Patel, K. D. Shah, M. S. Raval, M. Zaveri and S. N. Merchant, "[Novel Crash Prevention Framework for C-V2X using Deep Learning](#)," 2023 15th International Conference on COMMunication Systems & NETWORKS (COMSNETS), Bangalore, India, 2023, pp. 7-12, doi: 10.1109/COMSNETS56262.2023.10041397.
4. Snehal Rajput, Rupal Kapdi, Kanhaiya Sharma, Mehul S. Raval and Mohendra Roy, "[Survival Prediction of Malignant Brain Tumor Patients](#)," International conference on recent and future Trends in Smart Electronics System and Manufacturing and its applications (SESMIC), Dec. 2022, Pune, India
5. Mehul S Raval, Mohendra Roy, Minoru Kuribayashi, "[Survey on Vision Based Fake News Detection and Its Impact Analysis](#)", 2022 Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC), 7th - 10th November 2022, Chiang Mai, Thailand.
6. Param Raval, Hiren Khakhi, Minoru Kuribayashi, Mehul S Raval, "[Defense Against Adversarial Examples Using Beneficial Noise](#)", 2022 Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC), 7th - 10th November 2022, Chiang Mai, Thailand.
7. Hiroto Takiwaki, Minoru Kuribayashi, Nobuo Funabiki, Mehul S Raval, "[Privacy Protection Against Automated Tracking System Using Adversarial Patch](#)", 2022 Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC), 7th - 10th November 2022, Chiang Mai, Thailand.
8. R. Parmar, M. Kuribayashi, H. Takiwaki and M. S. Raval, "[On Fooling Facial Recognition Systems using Adversarial Patches](#)," 2022 International Joint Conference on Neural Networks (IJCNN), 2022, pp. 1-8, doi: 10.1109/IJCNN55064.2022.9892071.
9. S. U. Sharma, S. Divakaran, T. Kaya and M. Raval, "[A Hybrid Approach for Interpretable Game Performance Prediction in Basketball](#)," 2022 International Joint Conference on Neural Networks (IJCNN), 2022, pp. 01-08, doi: 10.1109/IJCNN55064.2022.9892583.
10. Abhi Lad, Mehul S Raval, "[Improving Wheat Head Detection: A Data-Centric Approach by Domain Variance Reduction](#)", [The 37th ACM/SIGAPP Symposium On Applied Computing Virtual Conference](#), pp. 1140 - 1143, April 25 - April 29, 2022, DOI: <https://doi.org/10.1145/3477314.3507190>
11. M. Shah, M. S. Raval and S. Divakaran, "[A Deep Learning Perspective to Atmospheric Correction of Satellite Images](#)," IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium, 2022, pp. 346-349, doi: 10.1109/IGARSS46834.2022.9884900.

#### CONFERENCE ORGANISED

Title	Organized At	From Date	To Date	Level	Role
<a href="#">Seventh International Conference on Big Data Analytics (BDA2019)</a>	Ahmedabad University	17/12/2019	20/12/2019	International	Chairman
<a href="#">Special Session - Adversarial attacks and Defense</a>	<a href="#">2022 Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)</a> , Chiang Mai, Thailand	07/11/2022	10/11/2022	International	Chairman
IEEE <a href="#">National Seminar on Computer Vision &amp; Image Processing Theme: Computer Vision and Image processing for Health Care</a>	Virtual	09/10/2020	11/10/2020	National	Chairman
<a href="#">1st International Conference on "Artificial Intelligence &amp; Machine Vision"</a>	Pandit Deendayal Energy University	24/09/2021	26/09/2021	International	Chairman

#### MEMBERSHIP AND ACTIVITIES IN PROFESSIONAL ASSOCIATION

- [Associate Editor, IEEE Access \(2017 - \)](#)
- [Guest Associate Editor and Review Editor - Frontiers Machine Learning and Artificial Intelligence \(2021 - \)](#)
- [Review Editor - Frontiers in Imaging \(2022 - \)](#)
- [Chair, IEEE Computational Intelligent Society](#) – Gujarat Chapter (2021 – 2022)
- Journal Paper Reviews: [ORCID \(28 reviews\)](#), [Publons \(48 reviews\)](#)

#### PROFESSIONAL AWARDS, HONORS

- [IEEE Access Outstanding Associate Editor 2018, 2019, 2020, 2021, 2022](#)
- [Best Paper Award](#)- Foram Shah, Dhaval Patel, Kashish Shah, Mehul S Raval, Mukesh Zaveri, Shabbir N Merchant, "[Novel Crash Prevention Framework for C-V2X using Deep Learning](#)," [Workshop on Connected Vehicles And Autonomous Driving](#), Colocated with [15th International Conference on COMMunication Systems & NETWORKS](#), 4th Jan. 2023, Bengaluru, India
- [Best Paper Award](#) - Snehal Rajput, Rupal Kapdi, Kanhaiya Sharma, Mehul S. Raval and Mohendra Roy, "[Survival Prediction of Malignant Brain Tumor Patients](#)," [International conference on recent and future Trends in Smart Electronics System and Manufacturing and its applications \(SESMIC\)](#), Dec. 2022, Pune, India
- International Travel Support by Science and Engineering Research Board, Government of India / Conference Grant by IEEE Computational Intelligence Society to attend [IEEE IJCNN 2022](#), July 2022

#### COMMUNITY SERVICES: TALKS

- Interdisciplinary teaching, Foundation program Learning Coalition, Ahmedabad University, 14<sup>th</sup> July 2023
- [Unleashing the Power of AI and Software: Opportunities for Startups in the Indian and Global Market](#), IT/ITES Conclave 2023, The Southern Gujarat Chamber of Commerce and Industries, Surat, India, 02nd June 2023.
- [Technology Vision 2047](#) - A Brainstorming Workshop, Technology Information, Forecasting and Assessment Council (TIFAC) and Gujarat Council on Science and Technology (GUJCOST), Science City, Ahmedabad, 27th March 2023.

- Open & Sharing Data @Ahmedabad University, Open and Sharing Data Working Group (OSDWG) meeting at [55th Meeting of the Asia-Pacific Advanced Network \(APAN55\)](#), March 15, 2023, Kathmandu, Nepal.