Curriculum Vitae

A.   Name and full address: Dr Maheshkumar Hanmant Kolekar,
Associate Professor, Electrical Engineering Department and
IIT Patna, Bihta, Patna -801103
Phone: 08986184240, mahesh@iitp.ac.in, mkolekar@gmail.com

B.   Institution: Indian Institute of Technology Patna

C.   Academic Qualification

Degree	Subject	Institution	Grade/Duration
Ph D	Image Processing	E and ECE Dept, IIT Kharagpur	2003-2007
Postdoc Fellow	Biomedical Signal and Image Processing, Video Surveillance	Dept of Computer Science, University of Missouri, Columbia, MO, USA	2008-2009 (2 yrs)
DAAD Fellow	EEG Signal Processing	TU Berlin, Germany	2017 (May-July)

D. Work experience

Positions held	Name of the Institute	Date of joining	Date of leaving	Duration
Associate Professor	Electrical Engineering Department, IIT Patna	29-03-2017	Till date	4 yrs
Assistant Professor	Electrical Engineering Department, IIT Patna	16-03-2010	28-03-2017	7 yrs

E. Research and Development projects executed successfully

Sponsoring Agency	Title of Project	Period	Principal Investigator/ CoPI	Remark
Principal Scientific Advisor Office, Govt of India, New Delhi	Real-time Abnormal Human Activity Recognition to Enhance Security	Two years	**PI: Dr. M H Kolekar**	Successfully completed
Center of Advanced System Engineering, IIT Patna	Multimodal brain fingerprinting for Neuro-forensic applications: An advance approach in crime investigation	Two years	**PI: Dr. M H Kolekar**	Successfully completed

DST New Delhi (under NM-ICPS) TIH IIT Patna	Real-time Anomaly Detection in Traffic Video Streams	Three year	**PI: Dr M H Kolekar**	On-going
DST New Delhi (under NM-ICPS) TIH IIT P	Forensics analysis of video files for the possible existence of unauthorized manipulation	Three years	**Co-PI: Dr M H Kolekar**	On-going
Ministry of Home Affairs, Directorate of Forensic Science Services, Govt of India	CCTV Storage Media Recovery and Enhancement Software Tool Using Artificial Intelligence Techniques	Two years	**PI: Dr M H Kolekar**	On-going

F. Administrative Experience at IIT Patna

SN	Post	Organization/ University	Duration From	To	Total Experience
1	Head	Electrical Engineering Dept, IIT Patna	Jan 2013	Dec 2013	1 year
2	Head of the Center	Center for Advanced Systems Engineering, IIT Patna	Jan 2014	May 2016	2 years 5 months
3	Associate Warden	IIT Patna	July 2010	Dec 2012	2 years 6 months
4	Professor-in-charge	National Knowledge Network, IIT Patna	Aug 2017	Sept 2019	2 years 1 month
5	Secretory DAPC, EE Dept	Departmental Academic Programme committee, IIT Patna	Mar 2018	Till date	2 year 6 months
6	Member IAPC	Institute Academic Programme Committee, IIT Patna	Jan 2013	Dec 2013	3 year 6 months
			Mar 2018	Till date	
7	Member of Senate	IIT Patna	Jan 2013	Dec 2013	4 years 6 months
			Mar 2017	Till date	

8	Member, Institute Security Committee	IIT Patna	May20, 2019	Till date	1 year 9 months
9	Coordinator M. Tech. Communication Systems Engineering	EE Dept, IIT Patna	July 2014	July 2016	2 years
1	PhD Coordinator	EE Dept, IIT Patna	Jan 2013	Dec 2013	1 years
1	Member, Governing Society	Incubation Center	2015	Till date	7 years
1	Member, Merit-cum-Means Scholarship committee for UG students	IIT Patna	Jan 2022	Till date	5 months

G. Ph.D Supervision at IIT Patna

SN	Name of student	Title of Thesis	PhD	Year of Completion
1	Alok Kumar Verma	An Intelligent Techniques for Fault Diagnosis of Induction Motor using Multi-Scale Entropy	Electrical Engineering	Jan 2015
2	Chandan K Jha	Electrocardiogram Data Compression Schemes with Validation by Using Cardiac Arrhythmia	Electrical Engineering	Aug 2019
3	Deba Prasad Dash	Machine Learning Techniques for Epileptic Seizure Detection using Clinical EEG Databases	Electrical Engineering	Oct 2020
4	Neelam Sharma	Early Dementia Diagnosis using EEG Signal Processing in Cognitive Paradigm	Electrical Engineering	June 2021
5	Nazia Aslam	Abnormal Activity Recognition using Deep Learning	Electrical Engineering	On-going
6	Abhishek Ray	Deep Learning Based Algorithms for Video Surveillance	Electrical Engineering	On-going
7	Samprit Bose	Deep Learning Based Anomaly detection in traffic video sequences	Electrical Engineering	On-going
8	Akanksha	Fake Video Detection Using Deep Learning for Forensic Application	Computer Science and	On-going (Joint)

			Engineering	
9	Simmi Ayub	Full duplex wireless communication using intelligent reflecting surfaces	Electrical Engineering	On-going (Joint)
10	Sushant Kumar Jha	Interference mitigation in wireless communication using sequences	Electrical Engineering	On-going (joint)

H. M Tech Supervision at IIT Patna

SN	Name of student	Title of Thesis	M. Tech	Year of Completion
1	Shubham	Human Activity Recognition using convolutional LSTM	VLSI and Embedded System	On- going
2	Priyesh D Hemrom	Deep Learning Technique for Fall Detection	Mechatronics Engg	On-going
3	A. Nagarani	Automated detection of diabetic subject using deep learning methodology	Communication Systems Engg	On-going
4	B Keerthi Tejaswini	Coronary artery disease prediction using ECG and PCG	Communication Systems Engg	On-going
5	Vipul Kumar Singh	An Hybrid CNN-SVM Architecture for Automated Screening of COVID-19 Using Enhanced Chest CT Images	Communication Systems Engg	June 2021
6	Kunchankara Alekhya	Automated Diabetes Detection and Management Using ECG Parameters for Remote Health Monitoring	Communication Systems Engg	June 2021
7	Neha Kumari	Object Detection using Deep Learning Techniques	VLSI and Embedded System	June 2021
8	Shani Ranjan	Design of new class of FIR interpolation filters by phase interleaving	VLSI and Embedded System	June 2021
9	Aradhana Kumari	Study and Design of Time Skew Mismatch Calibration Architecture for Time Interleaved ADC	VLSI and Embedded Systems	June 2020
10	Vishal Waghmare	Spinal Cord Image Segmentation for Diagnosis	Communication Systems Engg	June 2020
11	Tarun Kumar	An Autonomous Path	Mechatronics Engg	June 2020

	Singh	Finding Algorithm for Robot Using Computer Vision Techniques		
12	Lokesh Kumar	Video Context Description for Visually Impaired Person using Deep Learning Algorithm	Mechatronics Engg	June 2020
13	Abhishek Kumar	Real-time Hand Gesture Recognition for Robotic Arm using Image Processing Techniques	Mechatronics Engg	June 2020
14	Kanika Choudhary	Sparse Combination Learning for Abnormal Activity Detection	Mechatronics Engg	July 2018
15	Md Iqbal Ashraf	ECG Signal Compression Using Singular Value Decomposition	Communication Systems Engg	July 2018
16	Manish Kumar Mahto	ECG signal compression based on Empirical Mode Decomposition	Communication Systems Engg	May 2017
17	Rashmi Sweta Hembrom	EEG Signal Analysis	Communication Systems Engg	May 2017
18	Om Prakash Pal	EEG Signal Based Epileptic Seizure detection using SVM Classifier	Communication Systems Engg	May 2016
18	Nishant Bharti	Detection of Fence Climbing Activity Using Support Vector Machine Classifier	Communication Systems Engineering	May 2016
20	Veer Amol Motinath	ECG compression based on DCT and DWT	Mechatronics Engg	May 2016
21	Neelabh Keshav	Far-field based Human action recognition for video surveillance	Communication Systems Engineering	May 2015
22	Kapil Gupta	Primary Object Extraction in Videos through Layered Directed Acyclic Graph Structure	Mechatronics Engg	May, 2014

I.   Publications (List of only important and recent publications)

Papers in International Journals

(Total Papers Published: 30)

2022

1. Pranesh G, M H. Kolekar, "*Automatic song indexing by predicting listener's emotion using EEG correlates and multi-neural networks*" Multimedia Tools and Applications, 2022, (**Springer**). **(Impact Factor: 2.313)**

2. V K Singh, M H Kolekar, "*Deep Learning Empowered COVID-19 Diagnosis Using Chest CT Scan Images for Collaborative Edge-Cloud Computing Platform*", Springer Journal on Multimedia Tools and Applications, 2021 **(Impact Factor: 2.313)**

3. G Patil, P Dutta, G Sakarkar, M H Kolekar, K Paithankar, "*Novel Approach for DNS Tunneling Attack Detection Using Image Classification*", Neuroscience Informatics, (**Elsevier**), 2022 **(Impact Factor: 3.45)**

2021

4. Neelam, M H Kolekar, and K Jha, "*EEG based Dementia Diagnosis using Multi-class Support Vector Machine with Motor Speed Cognitive Test*", Biomedical Signal Processing and Control (**Elsevier**), vol 63, 2021. **(Impact factor 3.13)**

5. D P Dash, M H. Kolekar, and Kamlesh Jha. "*Surface EEG based epileptic seizure detection using wavelet-based features and dynamic mode decomposition power along with KNN classifier*" Multimedia Tools and Applications, pp 1-21, 2021 **(Impact Factor: 2.313)**

6. Neelam, M H Kolekar, and K Jha, "*EEG based Dementia Diagnosis using Multi-class Support Vector Machine with Motor Speed Cognitive Test*", Biomedical Signal Processing and Control (**Elsevier**), vol 63, 2021. **(Impact factor 3.13)**

7. C. K. Jha and M H Kolekar, "*Tunable Q-Wavelet based ECG Data Compression with Validation using Cardiac Arrhythmia Patterns*", Biomedical Signal Processing and Control (**Elsevier**), 2021. **(Impact factor 3.13)**

8. C. K. Jha, and M H Kolekar, "*Empirical Mode Decomposition and Wavelet Transform based ECG Data Compression Scheme*", Journal on Innovation and Research in Biomedical Engineering (**Elsevier**), Vol 42 (1), pp 65-72, 2021 **(Impact factor 1.9)**

9. M H Kolekar, C K Jha, P Kumar, "*ECG Data Compression Using Modified Run Length Encoding of Wavelet Coefficients for Holter Monitoring*", Journal

on Innovation and Research in Biomedical Engineering (**Elsevier**), 2021 (**Impact factor 1.9)**

2020

10. Neelam, M H Kolekar, K Jha, "*Iterative Filtering Decomposition based Early Dementia Diagnosis using EEG with Cognitive Tests*", **IEEE Transactions on Neural Systems & Rehabilitation Engineering**, Vol. 28 (9), pp 1890-1898, 2020 **(Impact Factor 3.8)**

11. D P Dash, M H Kolekar, K Jha, "*Multi-channel EEG based automatic epileptic seizure detection using iterative filtering decomposition and hidden Markov model*", Computers in Biology and Medicine (**Elsevier**), 2020 **(Impact factor 4.6)**

12. C K Jha, and M H. Kolekar, "Cardiac arrhythmia classification using tunable Q-wavelet transform based features and support vector machine classifier", Biomedical Signal Processing and Control (Elsevier), vol 59, 2020. **(Impact Factor 3.13)**

2019

13. C K Jha, and M H. Kolekar, "*Diagnostic quality assured ECG signal compression with selection of appropriate mother wavelet for minimal distortion*", Science, Measurement and Technology, (**IET**), 2019. **(Impact factor 2.23)**

14. N Sharma, M H Kolekar, K Jha, Y Kumar, "*EEG and cognitive biomarkers based mild cognitive impairment diagnosis*", Journal on Innovation and Research in Biomedical Engineering (**Elsevier**), vol 40(2), pp. 113-121, 2019 **(Impact factor 1.9)**

2018

15. C. K. Jha and M H Kolekar, "*Electrocardiogram data compression using DCT based discrete orthogonal Stockwell transform*", Biomedical Signal Processing and Control (**Elsevier**), vol 46, pp 174-181, 2018. **(Impact factor 3.13)**

2017

16. Dhane D. M., Maiti M. , Mungle T. , Bar C. , Achar A. , M H Kolekar, Chakraborty C, "*Fuzzy spectral clustering for automated delineation of chronic wound region using digital images*", Computers in Biology and Medicine (**Elsevier**), vol 89, pp 551-560, 2017 **(Impact factor 4.6)**

2016

17. A K Verma, S Sarangi and M. H. Kolekar, "*Misalignment Faults Detection in Induction Motor Based on Multiscale Entropy and Artificial Neural Network*", Electric power Components and Systems (**Taylor and Francis**), vol 44 (8), 916-927, 2016. **(Impact Factor 1.144)**

2015

18. M. H. Kolekar and S. Sengupta, "*Bayesian Network Based Customized Highlight Generation for Broadcast Soccer Videos*", **IEEE Transaction on Broadcasting**, Vol 61(2), pp 195-209, 2015. **(Impact factor 4.7)**

2014

19. A K Verma, S Sarangi and M. H. Kolekar, "*Stator winding fault prediction of induction motors using multiscale entropy and grey fuzzy optimization methods*" Computers and Electrical Engineering (**Elsevier**), vol 40 (7), pp 2246-2258, 2014. (**Impact factor 2.66**)

20. A. K. Verma, S. Sarangi, M. H. Kolekar, "*Experimental Investigation of Misalignment Effects on Rotor Shaft Vibration and on Stator Current Signature*", Journal of Failure Analysis and Prevention (**Springer**), Vol. 14, No. 2, pp. 125-138, 2014. (**Impact factor 0.8**)

21. A. K. Verma, S. Sarangi, M. H. Kolekar, "*Multi-scale Entropy Based Fault Detection of Broken Rotor Bar using Support Vector Machine*", Procedia Engineering (**Elsevier**), 2014. (**Impact factor 1**)

2011

22. M. H. Kolekar, "*Bayesian Belief Network based broadcast sports video indexing*", Multimedia Tools and Applications (**Springer**), Vol-54 (1), 27-54, 2011 (**Impact factor 2.6**)

2010

23. M. H. Kolekar, S. Sengupta, "*Semantic Concept Mining in Cricket Videos for Automated Highlight Generation*", Multimedia Tools and Applications (**Springer**), Vol-47 (3), 545-579, 2010. (**Impact factor 2.6**)

Papers in Indian Journals

(Total Papers Published: 7)

1. D P Dash, and M H. Kolekar. "*EEG Based Epileptic Seizure Detection Using Empirical Mode Decomposition and Hidden Markov Model*" Indian Journal of Public Health Research & Development 8, no. 4, 2017.

2. N Sharma, M H. Kolekar, Sushil Chandra, "*Synthetic Perception: New Era of Virtual Reality in Mental Health Care*", CSI communication, August 2016.

3. G Singh, M. H. Kolekar, "*A Distributed Weighted Voting Approach for Accurate Eye Center Estimation*", Defence Science Journal, 2013.

4. M. H. Kolekar, "*Hidden Markov Model based Highlight Generation of Cricket Video Sequence using Video and Audio Cues*", CSI Communications, vol. 28 (7), pp. 25-26, Jan 2005. **(Received Best Paper award).**

5. M. H. Kolekar, "*An Algorithm for Designing Optimal Gabor Filter for Segmenting Multi-textured Images*", IETE Journal of Research, India, vol. 48 (3-4), pp. 181-187, 2002.

6. M. H. Kolekar, S. N. Talbar and T. R. Sontakke, "*Texture Segmentation using Fractal Signature*", IETE Journal of Research, India, vol. 46 (5), pp. 319-323, Jan 2000.

Papers in International Conferences
(Total Papers: 29)

2019

1. D P Dash, M H Kolekar, "*EEG based Epileptic Seizure Detection using Least Square SVM with Spectral and Multi-scale Key Point Energy Features*", Int Conf on Soft Computing for Problem Solving, Springer, 2019.

2018

2. D.P.Dash, M.H.Kolekar, "*Probability-Based Approach for Epileptic Seizure Detection Using Hidden Markov Model*", 4th International Symposium SIRS 2018, Bangalore, India, September 19–22, 2018 **(Received Best Paper Award)**

3. D Ghosal, M H Kolekar, "*Music Genre Recognition Using Deep Neural Networks and Transfer Learning*", 19th annual International INTERSPEECH Conf, 2018.

4. D P Dash, and M H. Kolekar, "*Dense Optical Flow Trajectory-Based Human Activity Recognition Using Hierarchical Hidden Markov Model.*" Int Conf on Computer Vision & Image Processing (CVIP), Springer, Singapore, pp. 103-116. 2018.

2017

5. D P Dash, M H Kolekar, "*EEG based Epileptic Seizure Detection using Empirical Mode Decomposition and Hidden Markov Model*", Symhealth, 2017. **(Received Best Paper Award)**

6. S Bhatnagar, D Ghosal, M. H. Kolekar, "*Classification of Fashion Article Images using Convolutional Neural Networks*", Int. Conf. on Image Information Processing, Jaypee University, Solan, Simla, Dec 2017 **(citations: 53).**

7. Swati, Sparha M, D Devendra, S Chatterjee, M. H. Kolekar, "*An efficient GMM and active contour based unsupervised person re-identification*" Int. Conf. on Advances in Computing, Communications and Informatics, 2017.

2016

8. M.H. Kolekar, D. P.Dash and P. N. Patil, "*Support Vector Machine based Extraction of Crime Information in Human Brain using ERP Image*" Int. Conf. on Computer Vision and Image Processing (CVIP), 2016.

9. C K Jha, M. H. Kolekar, "*Efficient ECG data compression and transmission algorithm for Telemedicine*", Int Conf on COMmunication Systems and NETworkS (COMSNETS), 2016.

10. S Chatterjee, P Bhandari, M. H. Kolekar, *"A Novel Krawtchouk Moment Zonal Feature Descriptor for User-independent Static Hand Gesture Recognition",* IEEE Int Conf TENCON, 2016.

11. M. H. Kolekar, D P Dash, "*Hidden Markov Model Based Human Activity Recognition using Shape and Optical Flow Based Features*", IEEE Int Conf TENCON, 2016.

2015

12. M. H. Kolekar, D P Dash, "*A Nonlinear Feature Based Epileptic Seizure Detection using Least Square Support Vector Machine Classifier*" IEEE TENCON, 2015.

13. C K Jha, M. H. Kolekar, "*Performance Analysis of ECG Data Compression using Wavelet Based Hybrid Transform Method*", Int Conf on Microwave, Optical and Communication Engineering (ICMOCE), IIT Bhubaneswar, 2015.

14. M. H. Kolekar, Abhinash K. Jha, Apurva Singh, Sneha Srivastava, "*A Mask based approach for Lossless Color Image Steganography*", 21st American Conf on Information Systems, Puerto Rico, USA, August 2015

2014

15. Abhishek Kumar, M. H. Kolekar, "*Machine Learning Approach for Epileptic Seizure Detection Using Wavelet Analysis of EEG Signals*", Int. Conf. on Medical Imaging, M-health and Emerging Communication Systems, 2014

2012

16. M. H. Kolekar, H. Rai, L Raja, Anamika Prasad, "*Image Based Arterial Wall Thickness Estimation for Abdominal Aortic Aneurysm Rupture Risk Analysis*", 4th Int Congress on Computational Mechanics and Simulation, IIT Hyderabad, 2012.

17. A K S Kushwaha, O Prakash, A Khare, M H Kolekar, "*Rule based human activity recognition for surveillance system*", 4th Int Conf on Intelligent Human Computer Interaction (IHCI), 2012.

2009

18. M. H. Kolekar, K. Palaniappan, S. Sengupta, "*Video Event Detection and Semantic Identification Using Bayesian Belief Networks*", IEEE Int. Conf. on Computer Vision (ICCV) workshop, Kyoto, Japan, Sept 2009.

2008

19. M. H. Kolekar, K. Palaniappan, "*A Hierarchical Framework for Semantic Scene Classification in Soccer Sports Video*", IEEE Int Conf. TENCON, India, 2008.

20. M. H. Kolekar, K. Palaniappan and S. Sengupta, "*A Novel Framework for Semantic Annotation of Soccer Sports Video Sequences*", IET European Conf on Visual Media Production (CVMP), London, UK, 2008.

2006

21. M. H. Kolekar, S. Sengupta, "*A Hierarchical Framework for Generic Sports Video Classification*", Asian Conf on Computer Vision (ACCV), Hyderabad, India, 2006.

22. M. H. Kolekar, S. Sengupta, "*Event-importance based customized and automatic cricket highlight generation*", IEEE Int. Conf. on Multimedia and Expo (ICME), 2006.

2005

23. M. H. Kolekar, S. Sengupta, "*Hierarchical structure for audio-video based semantic classification of sports video sequences*", SPIE Int. Conf. on Visual Communications and Image Processing (VCIP), SPIE-5960/ 401-409, Beijing, China, 2005.

Papers in National Conferences
(Total Papers: 6)

1. M. H. Kolekar, "*Hidden Markov Model based Highlight Generation of Cricket Video Sequence using Video and Audio Cues*", Computer Society of India's Conf on IT++: The Next Generation, pp. 249-258, India, Dec 2004 **[Received best PhD student paper award]**

2. S Bhattacharyya, I Chakrabarti, M H Kolekar, "*Complexity Assisted Consistent Quality Rate Control for High Resolution H.264 Video Conferencing*" NCVPRIPG, IIT Patna, 2015.

3. V Gulhane, M. H. Kolekar, "*Diagnosis of diseases on cotton leaves using principal component analysis classifier*", IEEE INDICON Conference, 2014

4. M H Kolekar, S.Sengupta, "*Caption Content Analysis Based Automated Cricket Highlight Generation,*" National Communications Conf, IIT Bombay, Mumbai, 2008.

5. M. H. Kolekar, K. Palaniappan, S. Sengupta, "*Semantic Event Detection and Classification in Cricket Video Sequences*", IEEE Indian Conf. on Vision, Graphics and Image Processing (ICVGIP), Bhubaneswar, India, 2008.

Book as Author
1. M H Kolekar, "Intelligent Video Surveillance system: An Algorithmic Approach", CRC Press, 2018
2. M H Kolekar and Vinod Kumar, "*Biomedical Signal Processing: A Machine Learning and Deep Learning Approach*", CRC Press, contract signed on Sept 2020.

Books as Editor
3. C Chakraborty, A Banerjee, M H Kolekar, L Garg, B Chakraborty "*Internet of Things for Healthcare Technologies", Springer, 2020*
4. M. H. Kolekar, Vinod Kumar, "*Biomedical Signal and Image Processing in Patient Care*", IGI Global, 2017.
5. P K Singh, M. H. Kolekar, S Tanwar, S T Wierzchoń, R K. Bhatnagar, "*Emerging Technologies for Computing, Communication and Smart Cities*", Proceedings of ETCCS, Springer, 2021
6. P K Singh, Y. Singh, M. H. Kolekar, A K Kar, J K Chhabra, A Sen, "*Recent Innovations in Computing",* Proceedings of ICRIC, Springer 2021 (ISBN 978-981-15-8296-7)
7. P K Singh, A Noor, M H. Kolekar, S Tanwar, R K Bhatnagar, S Khanna, "*Evolving Technologies for Computing, Communication and Smart World",* Proceedings of ETCCS, Springer 2020
8. P K Singh, A K Kar, Y Singh, M H Kolekar, S Tanwar, "*Proceedings of ICRIC 2019*", Springer 2019.
9. M. H. Kolekar and U. Rajendra Acharya, "*Special Section on Biomedical Signal and Image Processing*", Journal of Medical Imaging and Health Informatics, American Scientific Publishers, June 2012.
10. M. H. Kolekar, "*Proceedings of Int Conf on Signal, Image and Video Processing"*, Excellent Publishing House, Jan 2012.

Book Chapters
1. N Sharma, M H Kolekar, "*Dementia Diagnosis with EEG using Machine Learning*", Artificial Intelligence for Neurological Disorders, Elsevier publication, 2022.
2. C.K. Jha, M.H. Kolekar, "*Arrhythmia ECG beats classification using wavelet-based features and support vector machine classifier*", IGI Global Publisher, 2019
3. D.P. Dash, M. H. Kolekar, "*Epileptic Focus Localization: A Discrete Wavelet Transform and Hidden Markov Model based Approach*", Biomedical Signal and Image Processing in Patient Care, IGI Global Publisher, 2017

4. C K Jha, M. H. Kolekar, "*Classification and compression of ECG Signal for Holter Device*" Biomedical Signal and Image Processing in Patient Care, IGI Global Publisher, 2017

5. S. Chatterjee and M H Kolekar, "*Feature extraction and segmentation techniques in static hand gesture recognition system*", Hybrid Intelligence for Image Analysis and Understanding, John Wiley Publication, UK, 2016

6. H Rai, M. H. Kolekar, N Keshav, J K Mukherjee, "*Trajectory Based Unusual Human Movement Identification for Video Surveillance System*", Progress in Systems Engineering, Springer publication, pp. 789-794, 2015

7. A. K. Verma, S Sarangi, M. H. Kolekar, "*Misalignment Fault Prediction of Motor-Shaft using Multiscale Entropy and Support Vector Machine*", Advances in Intelligent Informatics, Springer International Publishing, pp.359-370, 2015.

8. M. H. Kolekar, G. Raja, S. Sengupta, "*An introduction to wavelet-based image processing and its applications*", Recent Advances in Computer Vision and Image Processing: Methodologies and Applications, IGI Global publishers, USA, 2013.

J. Award /Prize/Honors:

Awards

- My name has appeared in the list of **top 2% scientists of the world in Image Processing area**, published by Stanford University, 2021
- **Best Paper Award-** 4th International Sym on Signal Processing and Intelligent Recognition Systems, 2018
- **Best Paper Award-** Symbiosis Institute of Health Sciences 2017
- Recipient of DST **DAAD** Fellowship 2017
- **Best paper award** -Computer Society of India (2004) (During PhD)

Honors

- **Fellow**, Institution of Engineers, India
- **Fellow**, IETE
- **Senior Member** IEEE
- Invited Member of **Board of Governance**, for Govt College of Engineering, Chandi, Bihar during 2019 to 2021.
- **Member of Research Project Evaluation Committee**, DST Bihar, Patna
- **Member of AICTE Expert Committee,** Research project evaluation, 2019
- **Technical Program Chair**, 8th International Symposium on Computer Vision and the Internet (VisionNet) 2022
- **Publicity Chair**, 7th International Conference on Computer Vision & Image

Processing, 2022

- **Technical Committee Member**, 26th International Conference on Pattern Recognition (ICPR 2022)
- **Technical Program Chair**, 6th International Symposium on Signal Processing and Intelligent Recognition Systems at Chennai, India, Oct 14-17, 2020.
- **Workshop Chair**, 5th International Conference on Computing, Communication and Security (ICCCS), 2020
- **Tutorial Chair**, 4th International Conference on Computing and Network Communications (CoCoNet), 2020
- **Advisory Committee Member**, 3rd International Conference on Computing and Network Communications, Dec 18-21, 2019
- Steering Committee Member, International Conference on Machine Learning and Information Processing, Dec 27-29, 2019.
- **Workshop Chair**, 4th International Symposium on Signal Processing and Intelligent Recognition Systems, Bangalore, Sept 19-22, 2019.
- **Session Chair**, International Conference Futurist Trends in Network and Computing Technologies, at **CDAC, Mohali**, Nov 23, 2019
- **Technical Program Chair**, 4th International Symposium on Signal Processing and Intelligent Recognition Systems at Bangalore during Sept 19-22, 2018.
- **Area Chair**, International Conf on Computer Vision & Image Processing (CVIP), 2018, IIITDM Jabalpur.
- **Program Chair**, 4th International Symposium on Computer Vision and the Internet, 2017, Manipal University, India.
- **Area Chair**, International Conf on Computer Vision & Image Processing (CVIP), 2017, IIT Roorkee.
- **Session Chair,** IEEE annual International conference **TENCON 2016** at Singapore
- **Tutorial Chair**, Int Conf on Human Computer Interaction, **IIT Kharagpur**, 2012
- **Organizing Chair** of an International Conference on Signal, Image and Video Processing at IIT Patna during Jan 13-15, 2012
- **Guest Editor,** Special issue on 'Biomedical Signal and Image Processing' Journal of Medical Imaging and Health Informatics, American Publisher, 2012
- **Editorial Board member,** American Journal of Signal Processing, Scientific and Academic Publishing

K.   Invited Talks:

- Delivered invited talk on, "Deep Learning Techniques for Automated Screening of COVID-19", during AICTE-ATAL FDP program on 'Data Science and Deep Learning', **IIIT Allahabad**, July 20, 2021

- Delivered invited talk on, "Deep Learning Techniques for Biomedical Signal Analysis", **NIT Hamidpur** on March 12, 2021

- Delivered keynote address on, "*Machine Learning and Deep Learning Techniques for Abnormal Human Activity Recognition*", Inter Conf FTNCT, at Southern Federal University, Taganrog, **Russia**, on Oct 15, 2020

- Delivered invited talk on "*Recent Development in COVID 19 Detection using Image Processing Techniques*", Short Term Course, **NIT Uttarakhand**, July 8, 2020

- Delivered invited talk on, "*Deep learning techniques for brain tumor detection*", International Conference FTNCT, **CDAC, Mohali**, Nov 23, 2019

- Delivered keynote address during "*Human Activity Recognition and Tracking to Enhance Security*", Int Conf on Emerging Trends in Communication, Computing and Electronics", **University of Allahabad**, April 2018.

- Delivered keynote address in the IEEE Int. Conf on Image Information Processing (ICIIP 2017), **JUIT** Solan, Dec 2017.

- Delivered keynote speech on, "Abnormal *Human Activity Recognition for Video Surveillance*", Int Conf ICACCI, **LNM Institute of Technology, Jaipur,** Sept 2016.

- Delivered invited talk on, "*Video Object Detection and Tracking*" Computer Science Dept, Workshop on Video Analytics under Indo–US 21st century Knowledge Initiative Programme, **NIT Tiruchirappalli**, on Nov 27, 2015.

- Delivered invited talk on, "*Image Processing Techniques for medical application*", IIT **Dhanbad** on Dec 30, 2014.

- Delivered invited talk on, "*Image Processing Techniques on Cardiovascular Disease Diagnosis and 3D Modeling of Aorta*", Cardiovascular Bioengineering Symposium, IIT **Delhi** on Dec 12, 2013.

- Delivered keynote address on, "*Image Processing Techniques for Cardiovascular Disease Diagnosis and pre-surgical planning*", Int Conf on Biomedical Systems, signals, and Images, **IIT Madras**, Chennai, Nov 30, 2012.

- Delivered invited talk on, "*Real-time Abnormal Human Activity Recognition*" at **Bhabha Atomic Research Center, Mumbai,** Sept 14, 2012.

Dr. Maheshkumar H. Kolekar