

# Research Publications

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### International Journals

1. Gaurav Kumar Sharma, K. M. Soni, Basant Kumar, Deep Learning Powered Ophthalmic Diagnosis of Glaucoma, IAENG, Int. J. of Computer Science, Vol. 53, Issue 1, pp.-112-121, January, 2026.
2. Kumar Mohit, Rajeev Gupta, Basant Kumar, Techniques for automatic plaque identification from few carotid ultrasound images using vision transformer Siamese architecture, Journal Biomedical Signal Processing and Control, Elsevier, July 2025, <https://doi.org/10.1016/j.bspc.2025.10828>.
3. Poonam Subudhi, Shoba Sivapatham, Rahul Narasimhan A, Basant Kumar, Deepak Punetha, Enhancing photovoltaic performance in tin-based perovskite solar cells: A unified approach utilizing numerical simulation and machine learning techniques, Journal of Power Sources, Vol. 639, May 2025.
4. Kumar Mohit, Rajeev Gupta, Basant Kumar, Contrastive learned Self-Supervised Technique for Fatty Liver and Chronic Liver Identification, Journal Biomedical Signal Processing and Control, Elsevier, September 2024, <https://doi.org/10.1016/j.bspc.2024.106950>
5. Neha Arora, Sindhu Hak Gupta, Basant Kumar, Energy-efficient Optimization and the Comparative Performance Analysis for Wireless Body Area Networks (WBANS), Sustainable Computing: Informatics and Systems, Vol. 42, pp. 1-8, Elsevier, Feb., 2024
6. Maninder Singh, Vishal Gupta, Rajeev Gupta, Basant Kumar, Deepak Agrawal. A Novel Method for Prediction of Raised Intracranial Pressure Through Automated ONSD and ETD Ratio Measurement From Ocular Ultrasound. Ultrasonic Imaging. 2023 Sep 12;1617346231197593. doi: 10.1177/01617346231197593. Epub ahead of print. PMID: 37698256. (SCIE. IF: 2.3)
7. Mohit Kumar\*, Gupta Rajeev and Kumar Basant, Computer-aided Diagnosis of Various Diseases Using Ultrasonography Images, Current Medical Imaging 2024; 20(). <https://dx.doi.org/10.2174/1573405619666230306101012> (SCIE, IF: 1.3)
8. Mohit Kumar\*, Gupta Rajeev and Kumar Basant, A Survey on the Machine Learning Techniques for Automated Diagnosis from Ultrasound Images, Current Medical Imaging 2024; 20(). <https://dx.doi.org/10.2174/1573405620666230529112655> (SCIE, IF: 1.3)
9. Shashwat Pandey, Darshika Sharma and Basant Kumar, Himanshu Singh, "Deep learning-based lightweight approach to thermal super resolution", *Int. J. Biometrics*, Vol. 15, Nos. 3/4, 2023, pp. 505-520, DOI: 10.1504/IJBM.2023.10048267

10. Maninder Singh, Basant Kumar, Deepak Agrawal, "Good view frames from ultrasonography (USG) video containing ONS diameter using state-of-the-art deep learning architectures", *Med Biol Eng Comput*, October (2022), Springer. <https://doi.org/10.1007/s11517-022-02680-3>.
11. Abhinav Adarsh, Shashwat Pathak, Digvijay Singh Chauhan, Basant Kumar, "Low-latency and High-Reliability FBMC Modulation scheme using Optimized Filter design for enabling NextG Real-time Smart Healthcare Applications", *The Journal of Supercomputing*, Springer, September, 2022, <https://doi.org/10.1007/s11227-022-04799-4>
12. Neha Arora, Sindhu Hak Gupta, **Basant Kumar**, "Performance evaluation and energy optimization of CM3A cooperative WBAN", *Measurement* (Elsevier), 199, (2022) 111440
13. Shashwat Pathak , Rahul Raj , Kartik Singh , Pawan Kumar Verma , Basant Kumar , "A Portable and Robust Cataract Detection and Grading Device for post COVID-19 contactless disease screening using Tele-Ophthalmology", *Multimedia Tools & Applications*, Springer, 81:23355–23371, 2022, <https://doi.org/10.1007/s11042-022-12544-5>
14. Rohini Srivastava, **Basant Kumar**, Fayadh Alenezi, Adi Alhudhaif, Sara A. Alhubiti, Kemal Polat, "Automatic Arrhythmia Detection Based on the Probabilistic Neural Network with FPGA Implementation", *Mathematical Problems in Engineering*, vol. 2022, Article ID 7564036, 11 pages, 2022. <https://doi.org/10.1155/2022/7564036>
15. Maninder Singh, Vishal Gupta, Pramod Kumar Singh, Rajeev Gupta, **Basant Kumar**, Fayadh Alenezi, Adi Alhudhaif, Sara A. Alhubiti, Kemal Polat, "Automatic Detection of Hard Exudates Shadow Region within Retinal Layers of OCT Images", *Mathematical Problems in Engineering*, vol. 2022, Article ID 7128547, 14 pages, 2022. <https://doi.org/10.1155/2022/7128547>
16. Shailesh Kumar and **Basant Kumar**, "Automatic early glaucoma detection by extracting parapapillary atrophy and optic disc from fundus image using SVM", *Multimedia tools and applications*, Springer, , January, 2022, <https://doi.org/10.1007/s11042-021-11023-7>
17. Rohini Srivastava , **Basant Kumar**, " Design of Anfis based pacemaker controller having improved transient response and its FPGA implementation", *Journal Biomedical Signal Processing and Control*, Elsevier, September 2021, <https://doi.org/10.1016/j.bspc.2021.103186>
18. Rohini Srivastava, Ch Kalyan Kumar Prusty, Nitin Sahai, Ravi Prakash Tewari & **Basant Kumar**, "An FPGA-based design for power efficient low delay rate adaptive pacemaker using accelerometer and heart rate sensor", *Journal of Medical Engineering & Technology*, Taylor & Francis, September 2021, DOI: 10.1080/03091902.2021.1967490.
19. A. Mohan a, A. Anand b, A.K. Singh b,\*, R. Dwivedi a, **B. Kumar**, "Selective encryption and optimization based watermarking for robust transmission of landslide images", *Computers and Electrical Engineering* ( Elsevier), 95 (2021) 107385
20. Neha Arora, Sindhu Hak Gupta, **Basant Kumar**, "Performance analysis of Terahertz communication link for cooperative wireless Body Area Network, *Optik* (Elsevier), 242 ( 2021) 167376
21. Neha Arora, Sindhu Hak Gupta, **Basant Kumar**, " Analyzing and Optimizing Cooperative Communication for In-vivo WBAN", *Wireless Personal Communication* , Springer ( Published online, 23 August, 2021).

22. Silvia Liberata Ullo, Amrita Mohan, Alessandro Sebastianelli, Shaik Ejaz Ahamed, **Basant Kumar**, Ramji Dwivedi, G. R. Sinha, "A New Mask R-CNN Based Method for Improved Landslide Detection" IEEE Journal on selected areas of remote sensing, Vol. 14, pp-3799-3809, 2021
23. Rohini Srivastava, Nitin Sahai, R. P. Tewari, and Basant Kumar, "Comparative analysis of Piezo Electric and Accelerometer Sensor for the design of Rate Adaptive Pacemaker". Measurement Sensors, Elsevier. DOI: 10.1016/j.measen.2021.10053
24. **A. Adarsh**, B. Kumar, M. Gupta, A. Kumar, A. Singh *et al.*, "Design of an efficient cooperative spectrum for intra-hospital cognitive radio network," *Computers, Materials & Continua*, vol. 69, no.1, pp. 35–49, 2021. (Published), **SCI (IF=4.89)**
25. **Abhinav Adarsh**, Shashwat Pathak , Basant Kumar, "Design and Analysis of a Reliable, Prioritized and Cognitive Radio-Controlled Telemedicine Network Architecture for Internet of Healthcare Things", International Journal of Computer Networks and Applications (IJCNA), 8(1), PP: 54 - 66, 2021, **Scopus (h-Index=16)**
26. Srivastava, Rohini; Ray, Sonali; Sharma, Meenakshi; Sahai, Nitin; Tewari, R.P.; Kumar, Basant, "Low Delay Rate Adaptive Pacemaker using FPGA Embedded Piezoelectric Sensor", Journal of Medical Engineering & Technology, Taylor & Francis., Vol. 44, No. 7, pp- 423- 430, 2020
27. Maurya, Prashant Kumar, Vishal Gupta, Maninder Singh, Amit Kumar Singh, Basant Kumar, and Anand Mohan. "Automated detection of diabetic macular edema involving cystoids and serous retinal detachment." *Optics & Laser Technology* 127 (2020): 106157.
28. Amrita Mohan, Amit Kumar Singh, **Basant Kumar**, Ramji Dwivedi, "Review on remote sensing methods for landslide detection using machine and deep learning", Transaction on Emerging Telecommunication Technologies, Wiley, published online (23 June, 2020) <https://doi.org/10.1002/ett.3998>
29. Neha Arora, Sindhu Hak Gupta, **Basant Kumar**, "An approach to investigate the best location for the central node placement for energy efficient WBAN", Journal of Ambient Intelligence and Humanized Computing, Springer, published online (11 March, 2020) <https://doi.org/10.1007/s12652-020-01847-w>
30. Shailesh Kumar, Abhinav Adarsh, **Basant Kumar**, Amit Kumar Singh, " An automated early diabetic retinopathy detection through improved blood vessel and optic disc segmentation", Optics and Laser Technology, Elsevier, available online 19 September, 2019. <https://doi.org/10.1016/j.optlastec.2019.105815>
31. Rajeev Gupta, Vishaal Gupta, Basant Kumar, Pramod Kumar Singh, Amit Kumar Singh, "A Novel Method for Automatic Retinal Detachment Detection and Estimation using Ocular Ultrasound Image", Multimedia Tools and Applications, Springer, 03 May 2018 (First online)
32. Sima Sahu, Harsh Vikram Singh, **Basant Kumar**, Amit Kumar Singh, " Statistical Modeling and Gaussianization procedure based De-speckling Algorithm for Retinal OCT Images", Journal of Ambient Intelligence and Humanized Computing", DOI 10.1007/s12652-018-0823-2, May 2018.
33. SimaSahu, Harsh Vikram Singh, **Basant Kumar**, Amit Kumar Singh "A Bayesian Multiresolution Approach for Noise Removal in Medical Magnetic Resonance Image", Journal of Intelligent Systems, Walter de Gruyter GmbH & Co. KG, Germany, DOI: 10.1515/jisys-2017-0402 , 2018

34. SimaSahu, Harsh Vikram Singh, **Basant Kumar**, and Amit Kumar Singh. "Image Processing based Automated Glaucoma Detection Techniques and Role of De-noising: A Technical Survey" International Journal of Information Technology and Web Engineering (IJITWE).
35. Digvijay Singh Chauhan, Amit Kumar Singh, AbhinavAdarsh, **Basant Kumar**, J. P. Saini, "Combining Mexican hat wavelet and spread spectrum for adaptive watermarking and its statistical detection using medical images", Multimedia Tools and Applications, Springer, October 2017
36. SimaSahu, Harsh Vikram Singh, **Basant Kumar**, & Amit Kumar Singh, "De-noising of ultrasound image using Bayesian approached heavy-tailed Cauchy distribution", Multimedia Tools and Applications, Springer, DOI 10.1007/s11042-017-5221-9, 25 September 2017 .
37. Rohini Srivastava, **Basant Kumar**, Amit Kumar Singh &Anand Mohan, "Computationally efficient joint imperceptible image watermarking and JPEG compression: A green computing approach",Multimedia Tools and Applications, Springer , DOI: 10.1007/s11042-017-5214-8, 22 September 2017
38. Sanjay Kumar Singh, Amit Kumar Singh, **Basant Kumar**, Subir Kumar Sarkar, Karm Veer Arya, "Guest Editorial: Multimedia for Predictive Analytics", Multimedia Tools and Applications, Springer, DOI: 10.1007/s11042-017-5107-x, 04 September 2017
39. Digvijay Singh Chauhan, Amit Kumar Singh, **Basant Kumar**, J. P. Saini, " Quantization based multiple information watermarking for secure e- health", Multimedia Tools and Applications, Springer, DOI 10.1007/s11042-017-4886-4, Published online 12 June 2017.**Citation- 10, Impact Factor-1.331**
40. Shashwat Pathak, **Basant Kumar**, "Wireless Teleophthalmology: A Novel, Low Cost, Flexible Network Architecture and its Performance Evaluation for Remote Eye Care Solutions", Journal of Telemedicine and E-Health, Mary Ann LiebertInc. Publishers, Vol. 23, No. 09, September 2017. **IF 1.791**
41. Amit Kumar Singh, **Basant Kumar**, Sanjay Kumar Singh, Mayank Dave, Vivek Kumar Singh, Pradeep Kumar, Satya Prakash Ghrera, Pradeep Kumar Gupta, &Anand Mohan, " Guest Editorial: Robust and Secure Data Hiding Techniques for Telemedicine Applications", Multimedia Tools and Applications, Springer, Vol. 76, No. 5, pp. 7563- 7573, 2017
42. Amit Kumar Singh, **Basant Kumar**, Sanjay Kumar Singh, Satya Prakash Ghrera, Anand Mohan,"Multiple Watermarking Technique for Securing Online Social Network Contents using Back Propagation Neural Network", Future Generation Computer Systems, Elsevier, 2016 (In press). **Citation-10,Impact Factor- 2.43**
43. Richa Pandey, Amit Kumar Singh, **Basant Kumar**, Anand Mohan, " Iris Based Secure NROI Multiple Eye Image Watermarking for Teleophthalmology", Multimedia Tools and Applications, Springer, Vol. 75 (22), pp. 14381-14397, Nov. 2016.**Citation- 10, Impact Factor-1.331**
44. Shashwat Pathak, **Basant Kumar**, "A Robust Automated Cataract Detection Algorithm Using Diagnostic Opinion Based Parameter Thresholding for Telemedicine Application", Journal of Electronics, **MDPI, published online, 15 September 2016**, DOI: 10.3390/electronics5030057, **ESCI,SCOPUS**
45. Sima Sahu, Harsh Vikram Singh, **Basant Kumar**, "Detection of Glaucoma using Image Processing", International Journal of Computing, Communications and Systems (IJCCS), ISSN: 2277-6699, Vol. 4, Issue-1, Feb. 2015.

46. Amit Kumar Singh, **Basant Kumar**, Mayank Dave, Anand Mohan, “Robust and Imperceptible Spread-Spectrum Watermarking for Telemedicine Applications”, Proceeding of National Academy of Sciences, India, Section A: Physical Sciences, **Springer**, Vol. 85 (2), pp. 295-301, April-June 2015. **Citation -1, Impact Factor-0.979**
47. Amit Kumar Singh, **Basant Kumar**, Mayank Dave, Anand Mohan, “Robust and Imperceptible Dual Watermarking for Telemedicine Application”, Journal of Wireless and Personal Communication, **Springer**, published online, September 2014, DOI 10.1007/s11277-014-2091-6. **Citation -3 , Impact Factor-0.242**
48. Amit Kumar Singh, **Basant Kumar**, Mayank Dave, Anand Mohan, “Multiple Watermarking On Medical Images Using Selective DWT Coefficients” Journal of Medical Imaging and health Informatics, American Scientific Publishers, USA , Vol. 5, No. 3, pp. 607-614 , June 2015. **Impact Factor-0642**
49. **Basant Kumar**, Anand Mohan, Shashwat Pathak, “Soft Handover Probability Determination Considering New Direction of Motion”, Journal of Communications and Networks, Scientific Research publishing, Vol. 5, No. 2, pp. 178- 183, May 2013
50. **Basant Kumar**, S.P. Singh, Anand Mohan and Animesh Anand, Performance of Quality Metrics for Compressed Medical Images through MOS Prediction , Journal of Medical Imaging and health Informatics, vol.2, no. 2, pp. 188-194, USA 2012. **Citation- 7, Impact Factor-0642**
51. **Basant Kumar**, S.P. Singh, Anand Mohan, Animesh Anand, “ Novel MOS Prediction Models for Compressed Medical Image Quality”, Journal of Medical Engineering and Technology , Informa Healthcare (Taylor & Francis), Vol. 35, Nos. 3-4, pp. 161-171, April-May 2011.
52. Krishna Kumar, **Basant Kumar**, Rachna Shah, “ Analysis of Efficient Wavelet based Volumetric Image Compression” International Journal of Image Processing (IJIP), vol. 6, no. 2, 2012. **Citation -7**
53. **Basant Kumar**, H.V. Singh, S.P. Singh, Anand Mohan , “Secure Spread-Spectrum Watermarking for Telemedicine” Journal of Information Security, Scientific Research Publishing , USA, Vol. 1, no. 2, pp. 91-98, April 2011. **Citation -8**
54. **Basant Kumar**, S.P. Singh, Anand Mohan, Arpit Khandelwal, Ashish Kumar, “Performance of WiMAX for Telemedicine Applications” International Journal of Recent Trends in Engineering, Academy Publishers, Finland, Vol. 3. No. 1, pp. Vol. 3. No. 1, May 2010 [ISSN- 1797-9617].
55. **Basant Kumar**, H.V. Singh, S.P. Singh, Anand Mohan, “Novel Efficient & Secure Medical Data Transmission on WiMAX”, International Journal of Telemedicine and e-Health, Vol. 14, no. 10, pp 1063-1069, Dec. 2008. url. [http://www.liebertpub.com/publication.aspx?pub\\_id=54](http://www.liebertpub.com/publication.aspx?pub_id=54) **Impact Factor-1.668.**

#### **International Conferences**

1. Maninder Singh, Prabhat Tiwari, Basant Kumar, Deepak Agrawal “Deep Learning based Classification of Spontaneous Venous Pulsation in Retinal Fundus Videos with Attention Mechanisms”, 16th ICCCNT 2025, IIT INDORE.
2. Ram Singh Patel, Maninder Singh, Basant Kumar “An automated Signature Verification Model using Artificial Neural Networks,” in: 3<sup>rd</sup> IEEE International Conference MAC 2025 organized by NIT Bhopal, India.

3. Vinayak Pandey, **Kunvar Kant Patel**, Rohini Srivastava, Basant Kumar, R.P. Tewari “Design and Analysis of Low Cost Non-Invasive Pacemaker Pulse Detection System” in: 3<sup>rd</sup> IEEE International Conference MAC 2025 organized by NIT Bhopal, India.
4. Kumar Mohit, Kunvar Kant Patel, Rajeev Gupta, Basant Kumar, " Automatic Evaluation of Chest Severity using Lung Volumetric Parenchymal Infections Semantic Segmented Images from High Resolution Computed Tomography," HTC–2024, IEEE Region 10 Technical Conference, 2<sup>nd</sup> Oct, 2024 Royale Chulan, Kuala Lumpur, Malaysia.
5. Kr Prabhakar Chaubey, Anshu Saurabh, Basant Kumar, Himanshu Singh" Performance Evaluation of various Enhancement Algorithm on Thermal Images by Implementation on PYNQ-Z2 Board," HTC – 2024, IEEE Region 10 Technical Conference, 1<sup>st</sup> Oct, 2024 Royale Chulan, Kuala Lumpur, Malaysia.
6. Kunvar Kant Patel, Rajeev Gupta, Basant Kumar, "Weight Assessment of Cardiac Risk Factors Using an Efficient Integration of FMFs and ANNs Optimization Technique," HTC – 2024, IEEE Region 10 Technical Conference, 1<sup>st</sup> Oct, 2024 Royale Chulan, Kuala Lumpur, Malaysia.
7. Kunvar Kant Patel, Silkie Agarwal, Sikandar Chaudhary, Basant Kumar, "RNN and PSO Based Evaluation of Weights of Cardiac Affecting Risk Factors," HTC – 2024, IEEE Region 10 Technical Conference, 2<sup>nd</sup> Oct, 2024 Royale Chulan, Kuala Lumpur, Malaysia.
8. Rohini Srivastava, Kunvar Kant Patel, Basant Kumar “Cardiac Diseases detection by multimodal cardiac data classification using CNN-ANN cascaded algorithm,” 3<sup>rd</sup> IEEE International Conference, CVMI 19<sup>th</sup> December 2024, IIIT Allahabad.
9. Gaurav Kumar Sharma, K. M. Soni, Basant Kumar, Maninder Singh, Deep-Learning based Real-Time Noise Removal in Retinal Fundus Images, SPARC-2024, Amity University, Lucknow, Sep. 12-13, 2024.
10. Shivani Singh, Mohd. Sahil, Basant Kumar, Himanshu Singh “**Performance Evaluation of various Histogram Equalization Techniques on Thermal Images**,” 2nd IEEE International Conference, CVMI CVMI 10th December 2023, IIIT Gwalior.
10. Rohini Srivastava, Kunvar Kant Patel, Basant Kumar “Accuracy assessment of a hand-held PPG based ECG acquisition device using 2-D CNN” 2nd IEEE International Conference CVMI 10th December 2023, IIIT Gwalior.
11. Kumar Mohit, Ankit Shukla, Rajeev Gupta, Pramod Kumar Singh, Kushagra Agarwal and Basant Kumar, "**Contrastive Learning Embedded Siamese Neural Network for the Assessment of Fatty Liver**," TENCON 2023 - 2023 IEEE Region 10 Conference (TENCON), Chiang Mai, Thailand, 2023, pp. 1261-1265, doi: 10.1109/TENCON58879.2023.10322413.
12. Maninder Singh, Rajeev Gupta, Basant Kumar and Deepak Agrawal, "**Development and Validation of Artery-Vein Ratio Measurement Based on Deep Learning Architectures**," TENCON 2023 - 2023 IEEE Region 10 Conference (TENCON), Chiang Mai, Thailand, 2023, pp. 1-6, doi: 10.1109/TENCON58879.2023.10322542.
13. Kumar Mohit, Rajeev Gupta, Basant Kumar, “Contrastive Learning Embedded Siamese Neural Network for the Assessment of Fatty Liver”, IEEE International Conference, TENCON 2023, Oct. 31- Nov. 03, 2023, Chiang Mai, Thailand, pp. 1261-1265, DOI:[10.1109/TENCON58879.2023.10322413](https://doi.org/10.1109/TENCON58879.2023.10322413)



14. K. Mohit, R. Gupta and B. Kumar, "Self-Supervised Contrastive Learning for Covid-19 Classification from Computed Tomography Images," *2022 IEEE 9th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, 2022, pp. 1-5, doi: 10.1109/UPCON56432.2022.9986406.
15. Gaurav Sharma, Maninder Singh, Basant Kumar, K.M. Soni "Traumatic Condition Assessment and Monitoring through Retinal Fundus Image", International Conference On Global Mental Health And Public Health Challenges & Innovation, **November 25 - 27, 2022**, IIIT Ranchi.
16. Vishal Gupta, Maninder singh, Rajiv Gupta, Basant Kumar, Deepak Agrawal. "Development of an Automated Algorithm to Quantify Optic Nerve Diameter using Ultrasound Measures: Implications for Optic Neuropathies", CVM IIT Allahabad, Prayagraj, August 12-13, 2022.
17. Neha Arora, Sindhu Hak Gupta, **Basant Kumar**, "Symbol Error Rate based approach to explore the best location for central node placement in On-body WBAN", **Confluence-2022**, January 27-28, 2022, Amity University, Noida , U.P. , 2022.
18. Shashwat Pandey, Darshika Sharma, Basant Kumar, and Himanshu Singh, "Quality Assessment of Deep Learning Based Super Resolution Techniques on Thermal Images", INDICON 2021, 19- 21 Dec.2021, Guwahati, India.**DOI: [10.1109/INDICON52576.2021.9691653](https://doi.org/10.1109/INDICON52576.2021.9691653)**
19. Darshika Sharma, Shashwat Pandey, Basant Kumar at. el., "Thermal Image Super-Resolution Challenge - PBVS 2021", CVPR-2021 workshop paper
20. Akash Kumar, Rohini Srivastava, Himanshu Gupta, and Basant Kumar, "IoT Based Fall Detection Monitoring and Alarm System For Elderly", UPCON, DOI: 10.1109/UPCON50219.2020.9376569
21. Amrita Mohan, Ramji Dwivedi, Basant Kumar, "Image Restoration of Landslide Photographs Using SRCNN", VCAS-2020, , MNNIT Allahabad, Prayagraj, 9-11 October, 2020
22. Atul Awasthi, Kumar Mohit, Rajeev Gupta, Basant Kumar, "Data Collection Website with Brain tumor and Pneumonia detection", VCAS-2020, MNNIT Allahabad, Prayagraj, MNNIT Allahabad, Prayagraj, 9-11 October, 2020
23. Kumar Mohit, Jojo Johnson, Kumari Simran, Rajeev Gupta, Basant Kumar, "A survey study of diseases diagnosed through imaging methodology using Ultrasonography", VCAS-2019, MNNIT Allahabad, Prayagraj, 21-23 October, 2019
24. Naveen Kumar, Arun Kumar, Prabal Gupta, Rohini Srivastava, R. P. Tewari, Nitin Sahai and Basant Kumar, " Development of Cloud Based Multi Modal m-Cardiac Management System", Accepted and Presented in VCAS-2019
25. Abhinav Adarsh, Ayushi Tiwari and Basant Kumar. "Performance Analysis of Data Sensitive Adaptive MAC Protocol for Intra-Hospital Scenario." In *Tenth International Conference on Computing, Communications and Networking Technologies (ICCCNT)*, July 6-8, 2019, IIT Kanpur.
26. Shailesh Kumar, Ajitabh Kumar Srivastava, Abhijeet Jha, AbhinavAdarsh, Rajeev Gupta and Basant Kumar. "Implementation of Linear Structuring Element in OpenCV for Blood Vessel Segmentation from Color Fundus Images." In *Tenth International Conference on Computing, Communications and Networking Technologies (ICCCNT)*, July 6-8, 2019, IIT Kanpur.

27. Aniket Pratik, Maninder Singh, KokkulaSriraj, Meesala A.Kumar, Rajeev Gupta, Deepak Agrawal and **Basant Kumar**, “ Computer Assisted Detection of Good View Frame from USG Video for ONSD Measurement ”,Surgetica 2019 Rennes, France.
28. Abhijit Jha, Shailesh Kumar, Ajitabh Srivastava, Rajeev Gupta and **Basant Kumar**, “Diabetic Retinopathy Detection and Grading From FundusImage Using Deep LearningLibrary Tensorflow” Surgetica 2019Rennes, France.
29. Devashish Sen, Rohini Srivastava, Nitin Sahai, R. P. Tewari and **Basant Kumar**, “Development of IoT Enabled Low Cost Management System for m-Cardiology”, ICAEEC, 2019, IIIT Allahabad, Prayagraj. (Accepted)
30. Sonali Ray, Meenakshi Sharma, Rohini Srivastava, NitinSahai, Dinaesh Bhatia, R.P.Tewari and **Basant Kumar**, “Implementation of Low Delay Dual Chamber Pacemaker Using Verilog”, SPIN-2019, Amity University, Noida.
31. Vikas Patidar, Rohini Srivastava, R.P.tewari, NitinSahai, Dinesh Bhatia and **Basant Kumar**, “Arrhythmia Classification Based on Combination of Heart Rate, Auto Regressive Coefficient and Spectral Entropy Using Probabilistic NeuralNetwork.” INDICON-2018, Amrita VishwaVidyapeetham, Coimbatore, Tamil Nadu, India.
32. Raghuvendra PratapTripathi, Ankita Tiwari, Sristi Jha, Rohini Srivastava, Nitin Sahai, Sudip Paul, T. K Sinha, Dinesh Bhatia and **Basant Kumar**, “Stockwell Transform based Time-Frequency Analysis of The ECG Features for Assessment of Risk of LeftVentricular Hypertrophy in Hypertension Patients” VCAS-2018, MNNIT Allahabad.
33. Rupesh Kumar, Sonali Ray, Meenakshi Sharma and **Basant Kumar**, “Abrupt Scene Change Detection Using Spatio-Temporal Regularity of Video Cube.” VCAS-2018, MNNIT Allahabad
34. Sima Sahu, Harsh Vikram Singh, Amit Kumar Singh and Basant Kumar, “MR Image Denoising Using Adaptive Wavelet Soft Thresholding”, VCAS-2018, MNNIT Allahabad, Prayagraj, MNNIT Allahabad, Prayagraj, 29 November to 01 December, 2018
35. S. Thakur, A. K. Singh, Basant Kumar, S.P. Ghrera, “ Improved DWT-SVD Based Medical Image Watermarking through hamming code and chaotic encryption”, VCAS-2018, MNNIT Allahabad, Prayagraj, MNNIT Allahabad, Prayagraj, 29 November to 01 December, 2018
36. Rajeev Gupta, Shubham Chaudhary, Shailesh Kumar and **Basant Kumar**, “Performance Evaluation of Joint Filtering and Histogram Equalization Techniques for Retinal Fundus Image Enhancement” UPCON-2018, MMM Gorakhpur.
37. Rajeev Gupta, Abhishek Singh, Pramod Kumar Singh, Ayushi Chandra, **Basant Kumar**, “ Automated Detection of Retinal Detachment from Ocular Ultrasound using Image Thresholding”, SPIN-2018, Amity University, Noida
38. Shailesh Kumar, **Basant Kumar**, “Diabetic Retinopathy Detection by Extracting Area and Number of Microaneurysm from Colour Fundus Image”, SPIN-2018, Amity University, Noida.
39. Sima Sahu, Harsh Vikram Singh, and **Basant Kumar**. "A Heavy-tailed Levy Distribution for Despeckling Ultrasound Image"2017 Fourth IEEE International Conference on Image Information Processing (ICIIP) at JPUIT Solan, H.P. Dec. 2017
40. Digvijay Singh Chauhan, AbhinavAdarsh, **Basant Kumar**, Rajeev Gupta, “Double Secret Key Based Medical Image Watermarking for Secure Telemedicine in Cloud Environment”, Proc. TSP-2014, pp. 660-664, July 5-7, Barcelona, Spain, 2017.



41. Sharad Kumar Yadav, Shailesh Kumar, **Basant Kumar** and Rajiv Gupta, “ Comparative Analysis of Fundus Image Enhancement in Detection of Diabetic Retinopathy”, IEEE Humanitarian Technology Conference, Dayalbagh, Agra, Dec 21-23, 2016.
42. Shubham Jain, Shashwat Pathak, **Basant Kumar**, “A Robust Design and Analysis of Analog Front End for Portable ECG Acquisition System”, IEEE Humanitarian Technology Conference, Dayalbagh, Agra, Dec 21-23, 2016.
43. Shashwat Pathak, Shubham Gupta, **Basant Kumar**, “A novel Cataract Detection Algorithm using Clinical Data Mapping”, IEEE Humanitarian Technology Conference, Dayalbagh, Agra, Dec 21-23, 2016.
44. Amit Vishwakarma, Shashwat Pathak, **Basant Kumar**, “Implementation of Low Delay Cockpit Voice Encoder for Flight Data Recorder Using TMS320C6713 DSP Processor”, International Conference on Parallel, Distributed and Grid Computing, JPUIT, Solan, Dec. 22-24, 2016.
45. Shashwat Pathak, **Basant Kumar**, Tarique Rashid, Arvind Kumar, “Energy Efficient Intra-Hospital Multi-patient Cardiac Monitoring Through ZigBee Network”, International Conference on Signal Processing & Integrated Networks, Proc SPIN-2015., pp. 400-404, Amity University, Noida, Feb. 19-20, 2015.
46. Tarique Rashid, Shashwat Pathak, **Basant Kumar**, “Performance Evaluation of ZigBee Network for Mutipatient Cardiac Monitoring in Telemedicine Scenario”, Proc. International conference on Medical Imaging, m-Health and Emerging Communication Systems (MedCom) 2014, pp. 422-427, Nov. 7-8, Greater Noida, 2014.
47. **Basant Kumar**, Shishu Bind Kumar Digvijay Singh Chauhan, “Wavelet Based Imperceptible Image Watermarking using Spread-spectrum’, International conference on Telecommunication & Signal Processing, Proc. TSP-2014, pp. 660-664, July 1-3, Berlin, Germany, 2014.
48. Krishna Kumar, Rajeev Gupta, **Basant Kumar**, Chandrahas Kumar, “Effect of Wavelet Filters on SFQ Encoder Performance for Medical Images”, International conference on Telecommunication & Signal Processing, TSP-2014, pp. 682-685, July 1-3, Berlin, Germany, 2014.
49. Shashwat Pathak, **Basant Kumar**, “Performance Evaluation of Routing Protocols for sending Healthcare data over WiMAX network”, International Conference on Signal Processing & Integrated Networks, Proc SPIN-2014. pp.-269-273, Amity, Noida, Feb. 2014. **Citation -1**
50. **Basant Kumar**, Shishu Bind Kumar, Chandrahas Kumar, “ Development of Improved SSIM Quality Index for Compressed Medical Images” , International Conference on Image Information Processing, Proc. ICIIP-2013, pp. 251-255, Dec. 09-11, 2013, JUIT, Wagnaghat, Shimla, India. **Citation -1**
51. **Basant Kumar**, S.P. Singh, Anand Mohan, Animesh Anand , “Performance of Quality Metrics for Compressed Medical Images through MOS Prediction’, International Conference on Signal, Image and Video Processing, Proc. ICSIVP-2012, pp. 11-16, Jan 13-15, 2012, IIT Patna, India.
52. Krishna Kumar, Basant Kumar, Dharmendra Kumar, Rachna Shah, “ Fingerprint Recognition using Minutiae Extraction”, International Conference on ICT-Initiatives, Policies & Governance, Nov. 28- 29, Dehradun, 2011.
53. Krishna Kumar, Basant Kumar, Dharmendra Kumar, Rachna Shah, “Comparative Study of Different Wavelet Based Image Compression Techniques”, International Conference on ICT-Initiatives, Policies & Governance, Nov. 28- 29, Dehradun, 2011

54. **Basant Kumar**, Animesh Anand ,S.P. Singh, Anand Mohan, “High Capacity Spread-Spectrum Watermarking for Telemedicine Applications”, International Conference on Signal Processing , Proc.ICSP-11, pp. 37-41,July-27-29, 2011, Paris, France. **Citation-7**
55. A.K Singh, P.K Acharya, **Basant Kumar**, “High Capacity Digital Image Watermarking with Increased Number of Blocks”, ACM International Conference on Communication, Computing and Security, February 12-14, 2011, Rourkela, Orissa, India. **Citation-1**
56. Dharmendra K.Jhariya, V.S. Tripathi, **Basant Kumar** “Performance of WiMAX 802.16 in Mobile Teletrauma system”6th International Conference of the Telemedicine Society of India (**Telemedicon'10**) ,14-16 November, 2010, Bhubaneswar , Orissa, India.
57. Dharmendra K. Jhariya, V.S. Tripathi, **Basant Kumar**, “Applying Telecommunication Technology to support National Rural Health Mission(NHRM)” 6th International Conference of the Telemedicine Society of India (**Telemedicon'10**) ,14-16 November, 2010 , Bhubaneswar , Orissa, India.
58. **Basant Kumar**, S.P. Singh, Anand Mohan, “Emerging Mobile Communication Technologies for Health”, International Conference on Computer and Communication Technology, Proc. ICCCT-2010,pp. 828-832, Sept-17-19, 2010, MNNIT, Allahabad.
59. **Basant Kumar**, S.P. Singh, Anand Mohan, AnimeshAnand, H.V. Singh, “ Statistical Modelling of Wavelet Coefficients of CT Scan Image”, Proc. ELECTRO-2009, 162-165, Dec. 22-24, Department of Electronics Engineering, Institute of Technology, Banaras Hindu University, Varanasi. **Citation-1**
60. **Basant Kumar**, S.P. Singh, Anand Mohan, H.V. Singh, “MOS Prediction of SPIHT Compressed Medical Images”, *Proc. International Conference on Signal Processing Systems*, ICSPS-2009, pp. 219-223, May 15-17 , 2009, Singapore. **Citation-6**

#### **National Conferences**

1. **Basant Kumar**, H.V. Singh, S.P. Singh, Anand Mohan, “SPIHT Compressed ECG data Transmission over WiMAX”, National Seminar on Devices, Circuits & Communication, NASDEC<sup>2</sup> -08, November 6-7, 2008, BIT, Mesra, Ranchi.
2. **Basant Kumar**, H.V. Singh, S.P. Singh, Anand Mohan, “Quality Assessment of Compressed Medical Images in Tele-Radiology”, 4<sup>th</sup> National Conference of Telemedicine Society of India, TELEMEDICON 08, November 14-16, 2008, Chandigarh.
3. **Basant Kumar**, Hemant Kumar, “Mobile Telemedicine: A Potential Rural Health Solution”, **National Conference** on Broadband Communication Systems, NCBCS-2006, August 28-29, 2006, Vishwakarma Institute of Information Technology, Pune.
4. **Basant Kumar**, “A Survey of Medical Applications of Microwave Energy”, **Symposium** on Emerging Trends in Electronics, ELECTRO-2005, Feb. 3-5, 2005, Department of Electronics Engineering, Institute of Technology, Banaras Hindu University, Varanasi.