

Research Publications

Publications in International Journals

1. Singh, P., Sehgal, P., (2021) G.V Black dental caries classification and preparation technique using optimal CNN-LSTM classifier. *Multimed Tools Appl* 80, Springer pp 5255–5272. <https://doi.org/10.1007/s11042-020-09891-6>. SCIE Indexed (IF:2.313)
2. Gupta R., Sehgal P., (2020), ‘HsIrisNet: Histogram Based Iris Recognition to Allay Replay and Template Attack Using Deep Learning Perspective’, *Pattern Recognit. Image Anal.* 30, Springer, pp 786–794 . <https://doi.org/10.1134/S105466182004015X> Scopus Indexed.
3. Singh P., Sehgal P.,(2020), ‘Numbering and Classification of Panoramic Dental Images using 6 layer Convolution Neural Network’. *Pattern Recognition and Image Analysis*, Springer, 30(1):125-133. Scopus Indexed.
4. Gupta, R., Sehgal, P. (2019), ‘Non-deterministic approach to allay replay attack on iris biometric. *Pattern Anal Applic* 22, Springer, 717–729 <https://doi.org/10.1007/s10044-018-0681-8>. SCIE Indexed (IF:1.512).
5. Goel N., Sehgal P. (2017), ‘Non-destructive low-cost approach for fuzzy classification of tomato images based on firmness prediction using regression’. *Journal of Intelligent & Fuzzy Systems* 32 (5), pp 3641-3653.SCI Indexed (IF:1.851)
6. Sehgal, P , Rawat S , Kaushik S , Ali S, Yadav R, (2017) " Hiding Encrypted Text using Text and Image Steganography: A Dual Steganographic Technique " , *International Journal of Electrical, Electronics and Data Communication (IJEEDC)* , pp. 54-57, Volume-5,Issue-7.
7. Gupta R., Sehgal P. (2016), ‘A survey of attacks on iris biometric systems’, *International Journal of Biometrics* 8 (2), pp 145-178.ESCI Indexed
8. Goel N., Sehgal P. (2015), ‘Fuzzy classification of pre-harvest tomatoes for ripeness estimation An approach based on automatic rule learning using decision tree’. *Appl. Soft Comput.* 36: 45-56 (Elsevier). SCIE Indexed. (IF:5.472)
9. Goel N., Sehgal P.,(2015), ‘Parallel Weighted Semantic Fusion for Cross-Media Retrieval’, *International Journal of Computational Intelligence Studies* 4 (1), 50-71.(UGC Care List Group I)
10. Goel N., Sehgal P. ,(2012), ‘A Refined Hybrid Image Retrieval System using Text and Color’. *International Journal of Computer Science Issues*, Pg. 48-56, Vol. 9, Issue 4, No 1, ISSN (Online): 1694-0814.
11. Bedi P., Bansal R., Sehgal P., (2013), ‘Using PSO in a spatial domain based image hiding scheme with distortion tolerance’. *Computers & Electrical Engineering*, Elsevier, 39(2): 640-654, SCIE Indexed(IF 2.663)
12. Bansal R., Sehgal P., Bedi P. , (2012), ‘Securing fingerprint images through PSO based robust facial watermarking’. *International Journal of Information Security and privacy (IJISP)*, IGI Global,6(2), 34-52.ESCI Indexed.
13. Bansal R., Sehgal P., Bedi P. (2012), ‘Securing fingerprint images using PSO based wavelet domain watermarking. *Information Security Journal, A Global Perspective*, Taylor and Francis, 21(2), 88-101. ESCI Indexed.
14. Bansal R., Sehgal P., Bedi P., (2011) ‘Minutiae Extraction from Fingerprint Images- a Review’. *International Journal of Computer Science Issues (IJCSI)* 8(5), 74-85.
15. Bansal R., Sehgal P., Bedi P. (2010) ‘Effective Morphological Extraction of True Fingerprint Minutiae based on the Hit or Miss Transform’. *International Journal of Biometrics and Bioinformatics (IJBB)*, 4(2), 71-85.

16. Sehgal P., Grover P.S. ,(2004) ‘Study and analysis of cartoon style rendering algorithms’, The Journal of the Computer Society of India, Vol. 34 Issue No.2, pp-56-67

Publications in International Conferences

1. Singh P., Sehgal P. (2021) G.V Black Classification of Dental Caries Using CNN. In: Panigrahi C.R., Pati B., Mohapatra P., Buyya R., Li KC. (eds) Progress in Advanced Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 1198. Springer, Singapore. https://doi.org/10.1007/978-981-15-6584-7_11
2. Gupta, R, and Sehgal, P, "Iris Recognition Using Selective Feature Set in Frequency Domain Using Deep Learning Perspective: FrDIrisNet." Cybernetics, Cognition and Machine Learning Applications: Proceedings of ICCMCLA 2020 (2021): 249.
3. Gupta, R, and Sehgal, P, “Optimized Singular Value Decomposition (SVD) based watermarking of Iris Biometric Data to mitigate replay attack.” Proceedings of 4th International Conference on Information and Communication Technology for Competitive Strategies (ICTCS 2019), pp. 161-172. CRC Press, 2020. ISBN: 978-100-30-5209-8.
4. Singh P., Sehgal P.,(2020), ‘Decision Support System for Black classification using GIST descriptors’. In: Pati B., Panigrahi C., Buyya R., Li KC. (eds) Advanced Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 1082.pp 343-352, Springer, Singapore. https://doi.org/10.1007/978-981-15-1081-6_29.
5. Gupta R., Sehgal P. (2019) A Complete End-to-End System for Iris Recognition to Mitigate Replay and Template Attack. In: Wang J., Reddy G., Prasad V., Reddy V. (eds) Soft Computing and Signal Processing. Advances in Intelligent Systems and Computing, vol 900. Springer, Singapore. https://doi.org/10.1007/978-981-13-3600-3_5
6. Singh P., Sehgal P. , (2017), ‘Automated caries detection based on Radon transformation and DCT’, *8th International Conference on Computing, Communication and Networking Technologies (ICCCNT)*, Delhi, pp. 1-6,
a. [doi:10.1109/ICCCNT.2017.8204030](https://doi.org/10.1109/ICCCNT.2017.8204030)
7. Gupta R., Sehgal P., (2016), ‘Mitigating Iris based Replay Attack using Cuckoo Optimized Reversible Watermarking’. Seventh International Conference on Advances in Computing, Control, and Telecommunication Technologies - ACT 2016, Hyderabad
8. Sehgal P., Goel N.,(2016), ‘Auto-annotation of tomato images based on ripeness and firmness classification for multimodal retrieval, Advances in Computing, Communications and Informatics (ICACCI), pp 1084-1091.
9. Goel N., Sehgal P.,(2014), ‘Adaptive segmentation technique for recognizing tomatoes at different maturity stages’ . International Conference on Computer, Control, Informatics and its Applications (IC3INA), 2014. IEEE Indonesia. ISBN: 978-1-4799-4575-7.
10. Goel N., Sehgal P. , (2013), ‘Weighted Semantic Fusion of Text and Content for Image Retrieval’. Proceedings of International Conference on Advances in Computing, Communications, and Informatics (ICACCI), pp. 681-687. IEEE, ISBN :978-1-4673-6217-7/13.

11. Bansal R., Bhasin V., Sehgal P., Bedi P.,(2013), 'Multi-Agent System for Intelligent Watermarking of Fingerprint Images' . International Conference on Fuzzy Systems, (Fuzz-IEEE - 2013), pp 1-8.
12. Bansal R., Sehgal P., Bedi P.,(2012), 'Intelligent Wavelet Domain Watermarking of Fingerprint Images'. 12th Int. Conf. Hybrid Intelligent Systems (HIS 2012), pp. 90-95.
13. Bedi P., Bansal R., Sehgal P., (2012), 'Securing Fingerprint Images using a Hybrid Technique'. International Conference on Advances in Computing, Communications and Informatics (ICACCI - 2012), pp. 557-565.
14. Bedi P., Bansal R., Sehgal P. (2012), 'Multimodal Biometric Authentication using PSO based Watermarking'. Second International Conference on Computer, Communication, Control and Information Technology, Procedia Technology vol. 4, pp. 612-618, Elsevier.
15. Bedi P., Bansal R., Sehgal P., (2010), 'Using PSO in Image Hiding Scheme based on LSB Substitution'. International conference on Advances in Computing and Communications (ACC 2011), CCIS 192, pp.259-268, Springer.
16. Bansal R., Gaur M., Arora P., Sehgal P., Bedi P., (2009), 'Fingerprint Image Enhancement Using Type-2 Fuzzy Sets'. In Proc. IEEE Sixth International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2009), pp. 412-417.
17. Bansal R., Sehgal P., Bedi P., (2008), 'A novel framework for enhancing images corrupted by impulse noise using type-II fuzzy sets'. In Proc. IEEE Fifth International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2008), pp. 266-271.
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19. P. Sehgal and P. S. Grover, "Stylized glass paintings for non-photorealistic rendered scenes," Ninth International Conference on Computer Aided Design and Computer Graphics (CAD-CG'05), Hong Kong, China, 2005, pp. 6 pp.-, doi: 10.1109/CAD-CG.2005.76.
20. Sehgal P., Grover P.S., (2004) 'A proposed Glass Painting Filter', Published in the proceedings of 4th Indian Conference on Computer Vision, Graphics and Image Processing, Kolkata, , pp-82-88.
21. Sehgal P., Grover P.S., (2004), 'A novel approach to cartoon style rendering of an image with an approximated crayon texture', Published in the IEEE proceedings of Computer graphics, Imaging and Visualization', pp-82-88.
22. Sehgal P., Grover P.S., (2004), 'Simulation of 2D glass Painting using multi-pass nonphotorealistic rendering technique', Published in the proceedings of The International Conference on imaging science, systems and technology'04(CISST'04), pp-279-285.
23. Sehgal P., Grover P.S., (2003), 'Cartoon Style Rendering of Crayon Textured Image". Published in the proceedings of The International Conference on imaging science, systems and technology'03(CISST'03). Volume II , pp-685-689.

Publications in Book Chapters

1. Bedi P., Bansal R., Sehgal P. (2013), 'Securing Biometrics using Watermarking. In the book titled', Recent Advances in Computer Vision and Image Processing: Methodologies and Applications, Chapter 4 Research Developments in Biometrics and Video Processing Techniques, pp 65-89, IGI Global.

2. Goel N., Sehgal P. (2016) 'Multi-Modal Fusion Schemes for Image Retrieval Systems to Bridge the Semantic Gap'. *Emerging Technologies in Intelligent Applications for Image and Video Processing*, IGI Global: pp 151-184.
3. Gupta R., Sehgal P. (2018) A Non-deterministic Approach to Mitigate Replay Attack and Database Attack Simultaneously on Iris Recognition System. In: Tiwary U. (eds) *Intelligent Human Computer Interaction. IHCI 2018. Lecture Notes in Computer Science*, vol 11278. pp 239-250 Springer, Cham (LNCS Book series) https://doi.org/10.1007/978-3-030-04021-5_22.
4. Singh P., Sehgal P. (2018) 'A Comparative Analysis of Various Segmentation Techniques on Dental Images, In: Bhattacharyya P.', Sastry H., Marriboyina V., Sharma R. (eds) *Smart and Innovative Trends in Next Generation Computing Technologies. NGCT 2017. Communications in Computer and Information Science*, Springer, vol 828. pp 555-576.
5. Goel N., Sehgal P., (2014), 'Image Retrieval using fuzzy color histogram and fuzzy string matching A correlation based scheme to reduce the semantic gap', *Intelligent Computing, Networking, and Informatics*, pp. 327-341. Springer, India, Vol. 243, ISBN 978-81-322-1665-0.