

RESEARCH PUBLICATIONS

I have **two US patents and 155 research papers**, which include **82 journal papers (76 published+6 under review)**, **2 books, 14 book chapters** and **59 international conference papers**. The **57 journal papers** have been published in ISI indexed journals with impact factors ranging from 10.244 to 0.299.

PATENTS

- [1] Fahman Saeed, **Hussain, M.**, Hatim Aboalsmah, “Method for Fingerprint Classification”, U.S. Patent No. US9530042B1, Dec27, 2016.
- [2] Qazi Emad Ul Haq, **Hussain, M.**, Hatim Aboalsmah, “Method of Classifying Raw EEG signals”, U.S. Patent No. US10299694, May 28, 2019.

JOURNAL PAPERS

Under Review

- [3] Laila AlShehri1, **Hussain1, M.**, Hatim Aboalsamh, Wadood Abdul, “Fragile Watermarking for Image Authentication using BRINT and ELM”, Multimedia Tools and Applications, (**Revision submitted**) 2019. [IF: 2.101, Q2, ISI indexed]
- [4] Qazi Emad-ul-Haq, **Hussain, M.**, Hatim Aboalsamh, Saeed Bamatraf, Aamir Saeed Malik, Hafeez Ullah Amin, “A review on understanding brain and memory Retention and Recall processes using EEG and fMRI techniques”, Psychiatry Research: Neuroimaging (**Revision submitted**), 2019. [IF: 2.27, Q3, ISI indexed]
- [5] Emad-ul-Haq Qazi, **Hussain, M.**, Hatim AboAlsamh, Ihsan Ullah, “Automatic Emotion Recognition (AER) System based on Two-Level Ensemble of Lightweight Deep CNN Models”, Future Generation Computer Systems, (Under review), 2019. [IF: 4.64, Q1, ISI indexed]
- [6] Fahman Saeed, **Hussain, M.**, Hatim A Aboalsamh, “Automatic Diabetic Retinopathy Diagnosis Using Deep Learning Technology” Medical Image Analysis (Under review) 2019 [IF: 8. 88, Q1, ISI indexed].

Accepted/Published

- [7] Laila AlShehri1, **Hussain, M.**, Hatim Aboalsamh, Wadood Abdul, “Fragile Watermarking for Image Authentication using BRINT and ELM”, Multimedia Tools and Applications, vol. 79, pp 29199–29223, 2020. [IF: 2.313, Q2, ISI indexed]
- [8] Muhammad Nadeem Ashraf, **Hussain, M.** and Zulfiqar Habib, “Review of Various Tasks Performed in the Preprocessing Phase of a Diabetic Retinopathy Diagnosis System”, Current Medical Imaging, Volume 16, Issue 4, 2020. [IF: 0.533, Q4, ISI indexed]
- [9] Amani Alahmadia, **Hussain, M.**, Hatim Aboalsamh and Aqil Azmia, “ConvSRC: SmartPhone-based Periocular Recognition using Deep Convolutional Neural Network and

- Sparsity Augmented Collaborative Representation”, *Journal of Intelligent & Fuzzy Systems*, vol. 38, no. 3, pp. 3041-3057, 2020. [IF: 1.637, Q3, ISI indexed]
- [10] M. Saddique, K. Asghar, U. I. Bajwa, **M. Hussain**, H. A. Aboalsamh and Z. Habib, "Classification of Authentic and Tampered Video Using Motion Residual and Parasitic Layers," in *IEEE Access*, vol. 8, pp. 56782-56797, 2020 [IF: 3.745, Q1, ISI indexed]
- [11] Amani Alahmadi, **Hussain, M.**, Hatim A. Aboalsamh, Mansour Zuair, “PCAPool: Unsupervised Feature Learning for Face Recognition using PCA, LBP and Pyramid Pooling”, *Pattern Analysis and Applications*, vol. 23(2), pp. 673-682, 2020. [IF: 1.281, ISI indexed]
- [12] AM Al-Ssulami, AM Azmi, **Hussain, M.**, “CodSeqGen: A tool for generating synonymous coding sequences with desired GC-contents”, *Genomics*, vol. 112(1), pp. 237-242, 2020. [IF: 3.16, ISI indexed]
- [13] Aqil M. Azmi, Maram F. Al-Jouie, **Hussain M.**, “AAEE –Automated evaluation of students’ essays in Arabic language”, *Information Processing and Management*, 56 (2019), pp. 1736- 1752, 2019 [IF: 3.892, ISI indexed].
- [14] Norah Asiri, **Hussain M.**, Fadwa Al-Adel, Nazih Alzaidid, “Deep learning based computer-aided diagnosis systems for diabetic retinopathy: A survey”, *Artificial Intelligence in Medicine*, Vol 99, August 2019 [IF: 3.574, ISI indexed].
- [15] Mubbashar Saddique, Khurshid Asghar, Usama Ijaz Bajwa, **Hussain M.**, Zulfiqar Habib, “Spatial Video Forgery Detection and Localization using Texture Analysis of Consecutive Frames”, *Advances in Electrical and Computer Engineering Journal*, Vol. 19(3), pp. 97-108, 2019 [IF: 0.650, ISI indexed].
- [16] Khurshid Asghara, Xianfang Sun, Paul L. Rosinc, Mubbashar Saddique, **Hussain M.**, Zulfiqar Habib, “Edge-Texture Feature based Image Forgery Detection with Cross Dataset Evaluation”, *Machine Vision and Applications (Revision submitted)*, 2019. [IF: 1.306, ISI indexed]
- [17] Helala AlShehri, **Hussain, M.**, Hatim AboAlSamh, Qazi Emad-ul-Haq, Mansour Al-zuair and Aqil M. Azmi, “Alignment-Free Cross-Sensor Fingerprint Matching based on the Co-Occurrence of Ridge Orientations and Gabor-HoG Descriptor”, *IEEE Access*, Vol. 7, pp. 86436 – 86452, 20 June 2019. [IF: 4.098, ISI indexed]
- [18] Emad-ul-Haq Qazi, **Hussain, M.** and Hatim Aboalsamh, “An Efficient Intelligent System for the Classification of Electroencephalography (EEG) Brain Signals using Nuclear Features for Human Cognitive Tasks”, *Journal of Intelligent & Fuzzy Systems*, Vol. 37(1), pp. 913-928, 2019. [IF: 1.637, ISI indexed]
- [19] Helala alshehri, **Hussain, M.**, Hatim Aboalsamh, and Mansour Al-zuair, “Cross-Sensor Fingerprint Matching Method Based on Orientation, Gradient, and Gabor-HoG Descriptors with Score Level Fusion” *IEEE Access*, vol. 6, pp. 28951-28968, 2018. [IF: 3.557, ISI indexed]
- [20] Ihsan Ullah, **Hussain, M.**, Emad-ul-Haq Qazi and Hatim Aboalsamh, “An Automated System for Epilepsy Detection using EEG Brain Signals based on Deep Learning Approach”, *Expert Systems with Applications*, Vol. 107, pp. 61-71, 2018. [IF: 4.292, ISI indexed]

- [21] Helala AlShehri, **Hussain, M.**, Hatim AboAlSamh and Mansour AlZuair, “A Large-Scale Study of Fingerprint Matching Systems for Sensor Interoperability Problem”, *Sensors*, Vol. 18(4), 2018. [IF: 3.031, ISI indexed]
- [22] AlShehri, H, **Hussain, M.**, AboAlSamh, HA, AlZuair, M., “Fingerprint Verification System for Cross-sensor Matching based on LBP and SIFT Descriptors and Score level Fusion”, *International Journal of Computer Science and Software Engineering*, Vol. 7(3), pp. 47–51, 2018.
- [23] Syed Jamal Safdar Gardezi, Ibrahima Faye, Faouzi Adjed, Nidal Kamel, **Hussain, M.**, “Mammogram classification using Dynamic time warping”, *Multimedia Tools and Applications*, Vol. 77(3), pp. 3941-3962, February 2018. [IF: 2.101, ISI indexed]
- [24] Emad-ul-Haq Qazi, **Hussain, M.**, Hatim Aboalsamh, Aamir Malik, HafeezUllah Amin, Saeed Bamatraf, “Single Trial EEG Patterns for the Prediction of Individual Differences in Fluid Intelligence”, *Frontiers in Human Neuroscience*, Published online Jan 20, 2017. [IF: 2.871, ISI indexed].
- [25] W Abdul, A Alzamil, H Masri, S Ghouzali, **Hussain, M.**, M AlZuair, “Fingerprint and Iris Template Protection for Health Information System Access and Security”, *Journal of Medical Imaging and Health Informatics*, vol. 7 (6), pp. 1302-1308, 2017. [IF: 0.549, ISI indexed]
- [26] Rana Fayyaza Ahmad, Aamir Saeeda Malik, Nidal Kamel, Faruque Reza, Hafeez Ullaha Amin, **Hussain, M.**, “Visual brain activity patterns classification with simultaneous EEG-fMRI: A multimodal approach”, *Technology and Health Care*, vol. 25(3), pp. 471-485, 2017. [IF: 0.787, ISI indexed]
- [27] B Al-Dhafian, I Ahmad, **Hussain, M.**, Fazal-e-Amin, M Imran, “Improving the Security in Healthcare Information System Through Elman Neural Network Based Classifier”, *Journal of Medical Imaging and Health Informatics*, Vol. 7 (6), pp. 1429-1435, 2017. [IF: 0.549, ISI indexed]
- [28] A Al-Amro, **Hussain, M.**, I Ahmad, A Alghamdi, MA Al-Wadud, “Performance Comparison of Kernel Principal Component Analysis's Kernels in Intrusion Detection”, *Journal of Medical Imaging and Health Informatics*, Vol. 7 (3), pp. 733-738, 2017. [IF: 0.549, ISI indexed]
- [29] Syed Jamal Safdar Gardezi, Ibrahima Faye, Faouzi Adjed, Nidal Kamel, **Hussain, M.**, “Mammogram classification using Chi-square distribution on local binary pattern features”, *Journal of Medical Imaging and Health Informatics*, vol. 7(1), pp. 30-34, 2017. [IF: 0.549, ISI indexed]
- [30] Wajid Mumtaz, Likun Xia, Syed Saad Azhar Ali, Mohd Azhar Mohd Yasin, **Hussain, H.**, Aamir Saeed Malik, “Electroencephalogram (EEG)-based computer-aided technique to diagnose major depressive disorder (MDD)”, *Biomedical Signal Processing and Control*, Vol. 31(2017) pp.108–115, 2017. [IF: 2.783, ISI indexed]
- [31] Ghulam Muhammad, **Hussain, H.**, Muneer Al-Hammadi, Hatim Aboalsamh, Hassan Mathkour and Amir Saeed Malik, “Short-term and long-term memory analysis of learning

- using 2D and 3D educational contents”, *Behaviour & Information Technology* (Taylor & Francis), vol. 35, pp. 958-967, Sep. 2016. [IF: 1.380, ISI indexed]
- [32] Salabat Khan, **Hussain, M.**, Hatim Aboalsamh, Hassan Mathkour, George Bebis, Mohammed Zakariah, “Optimized Gabor features for mass classification in mammography”, *Applied Soft Computing*, Vol. 44, pp. 267–280, 2016. [IF:3.907, ISI indexed]
- [33] Amani Alahmadi, **Hussain, M.**, Hatim Aboalsamh, Ghulam Muhammad, George Bebis, Hassan Mathkour, “Passive Detection of Image Forgery using DCT and Local Binary Pattern”, *Signal, Image and Video Processing* (Springer), Vol. 11(1), pp. 81–88 2017. [IF: 1.643, ISI indexed]
- [34] Salabat Khan, **Hussain, M.** Hatim Aboalsamh and George Bebis, “A comparison of different Gabor feature extraction approaches for mass classification in mammography” *Multimedia Tools Appl.*, Vol. 76(1), pp 33–57, 2017 [IF: 4.873, ISI indexed].
- [35] Khurshid Asghar, Zulfiqar Habib, **Hussain, M.**, “Copy-Move and Splicing Image Forgery Detection and Localization Techniques: A Review”, *Australian Journal of Forensic Sciences*, published online: 29 Apr 2016 [IF: 1.522, ISI indexed].
- [36] Saeed Bamatraf, **Hussain, M.**, Hatim A. Aboalsamh, Qazi Emad-Ul-Haq, Aamir Saeed Malik, Hafeezullah Amin, Hassan Mathkour, Ghulam Muhammad and Hafiz Muhammad Imran, “A System for True and False Memory Prediction based on 2D and 3D Educational Contents and EEG Brain Signals”, *Computational Intelligence and Neuroscience*, Article Number: 8491046, 2016. [IF: 2.154, ISI indexed]
- [37] Hafeez Ullah Amin, Aamir Saeed Malik, Nidal Kamel, **Hussain, M.**, “A Novel Approach Based on Data Redundancy for Feature Extraction of EEG Signals”, *Brain Topography*, Springer, vol. 29(2), pp 207–217, March 2016 [IF: 3.104, ISI indexed].
- [38] Qing-Chuan, Zhi-Ming, George Bebis, **Hussain, M.**, “Face recognition using a novel image representation scheme and multi-scale local features”, *International Journal of Biometrics*, vol. 7(3), pp 191-212, 2015 [Scopus indexed].
- [39] Qazi Emad-ul-Haq, Hatim Aboalsamh, Abdelfettah Belghith, **Hussain, M.**, Wadood Abdul, Mostafa H. Dahshan, Sanaa Ghouzali, “Challenges and Solutions for Internet of Things Driven by IPv6” *KSII Transactions on Internet and Information Systems*, Vol. 9(12), pp. 4739 – 4758, December 31, 2015 [IF: 0.711, ISI indexed].
- [40] Hafeez Ullah Amin, Aamir Saeed Malik, Nidal Kamel, Weng-Tink Chooi and **Hussain, M.**, “P300 correlates with learning & memory abilities and fluid intelligence” *Journal of NeuroEngineering and Rehabilitation* (2015) 12:87, 2015 [IF:3.865, ISI indexed].
- [41] Mohamed A. Berbar, Awatif Alqahtani, **Hussain M.**, “Masses Classification using Discrete Cosine Transform and Wavelet-based Directional Filter Bank for Breast Cancer

- Diagnosis”, *Journal of Medical Imaging and Health Informatics*, vol. 6(1), pp. 117-124(8), February 2016 [IF: 0.549, ISI indexed].
- [42] Faezeh Tafazzoli, George Bebis, Sushil Louis and **Hussain, M.**, “Genetic Feature Selection for Gait Recognition” *Journal of Electronic Imaging*, vol. 24(1) 013036, February 25, 2015. [IF: 0.924, ISI indexed].
- [43] **Hussain, M.**, Sahar Q. Saleh, George Bebis, Ghulam Muhammad, Hatim Aboalsamh, and Hassan Mathkour “Evaluation of Image Forgery Detection Using Multi-Scale Weber Local Descriptors”, *International Journal on Artificial Intelligence Tools*, Vol. 24, No. 4 (2015) 1540016 (28 pages). [IF: 0.849, ISI Indexed].
- [44] Hafeez Ullah Amin, Aamir Saeed Malik, Rana Fayyaz Ahmad, Nasreen Badruddin, Nidal Kamel, **Hussain, M.**, WengTink Chooi, “Feature extraction and classification for EEG signals using wavelet transform and machine learning techniques” *Australasian Physical & Engineering Sciences in Medicine*, vol. 38(1), pp 139–149, March 2015 [IF: 1.000, ISI indexed]
- [45] Aamir Saeed Malik, Hafeezullah Amin, Nidal Kamel, Weng-Tink Choi, **Hussain, M.**, “The Effects of 3DTechnology on the Brain during Learning and Memory Recall Processes”- Abstract, *Annals of Neurology*, S18, Vol. 76, pp. S-24, October 2014 [IF: 10.244, ISI Indexed].
- [46] **Hussain, M.**, Mammogram Enhancement Using Lifting Dyadic Wavelet Transform and Normalized Tsallis Entropy, *Journal of Computer Science and Technology*, vol. 29(6): pp. 1048-1057, 2014 [IF: 1.185, ISI Indexed].
- [47] Ihsan Ullah, Aboalsamh, H., **Hussain, M.**, Muhammad, G., Mirza, A. M., Bebis, G., “Gender Classification using Texture Descriptors,” *Journal of Internet Technology*, vol. 15(5), pp.801-812 (2014/9) [IF: 0.715, ISI Indexed].
- [48] Yasser A. Reyad, Mohamed A. Berbar, **Hussain M.**, “Comparison of Statistical, LBP, and Multi-Resolution Analysis Features for Breast Mass Classification,” *J Med Syst* (2014) 38(9), pp. 1-15, 2014 [IF: 2.415, ISI Indexed]
- [49] Ahmad, I, **Hussain M.**, Alghamdi, A., Alelaiwi, A., “Enhancing SVM performance in intrusion detection using optimal feature subset selection based on genetic principal components,” *Neural Computing and Applications*, vol. 24, pp. 1671–1682, Springer-Verlag, (ISSN 0941-0643), 2013 [IF: 4.213, ISI Indexed].
- [50] **Hussain, M.**, Khan, S., Muhammad, G., and Bebis, G., “Effective Extraction of Gabor features for False Positive Reduction and Mass classification in Mammography,” *Applied Mathematics and Information Sciences - An International Journal*, vol. 8(1L), pp. 397-412 (Apr. 2014) [ISI Indexed].
- [51] **Hussain, M.**, Ihsan Ullah, Aboalsamh, H., Muhammad, G., Bebis, G., and Mirza, A. M., “Gender Recognition from Face Images with Dyadic Wavelet Transform and Local Binary

- Pattern,” *International Journal on Artificial Intelligence Tools* vol. 22(6), 1360018 (18 pages), 2013 (ISSN: 0218-2130) [IF: 0.565, ISI Indexed].
- [52] Ghulam Muhammad, Munner H. Al-Hammadi, **Hussain, M.**, and George Bebis, “Image Forgery Detection Using Steerable Pyramid Transform and Local Binary Pattern”, *Machine Vision and Applications*, Springer-Verlag, vol. 25(4), pp. 985-995, May 2014 (ISSN 0932-8092) [IF: 1.306, ISI Indexed].
- [53] Kausar, N., Samir, B.B., Ahmad, I., **Hussain, M.**, “Efficient intrusion detection system based on support vector machines using optimized kernel function”, *Journal of Theoretical and Applied Information Technology* 60 (1), pp. 55-63, 2014 [Scopus Indexed].
- [54] **Hussain, M.**, “False Positive Reduction in Mammography using Multiscale Spatial Weber Law Descriptor and Support Vector Machines,” *Neural Computing and Applications*, vol. 25(1), pp 83–93, Springer-Verlag, July 2014 (ISSN 0941-0643) [IF: 4.213, ISI indexed].
- [55] Ihsan Ullah, **Hussain, M.**, Aboalsamh, H., El-Zaart, A., “Novel Technique for Mammogram Image Segmentation using Moment Preserving Principle,” *Information-Tokyo*, vol. 16(5), pp. 3155-3164, May, 2013 (ISSN 1343-4500).
- [56] **Hussain, M.**, “Efficient Decimation of Polygonal Models using Normal Field Deviation,” *Computing and Informatics*, vol. 32(3), pp. 527–547, July 2013 (ISSN 1335-9150) [IF: 0.524, ISI indexed].
- [57] **Hussain, M.**, Al-Shehri, H., Berbar, M., “Contrast Enhancement of Mammograms using Non-subsampled Contourlet Transform and Tsallis entropy,” *Information-Tokyo*, vol. 16(5), pp. 3267-3274, May, 2013.
- [58] Maryam J., Bebis, G., **Hussain, M.**, and Muhammad, G., “Accurate and Robust Localization of Duplicated Region in Copy Move Image Forgery,” *Machine Vision and Applications (MVA)*, Springer-Verlag, vol. 25(2), pp 451-475, 2014 (ISSN 0932-8092) [IF: 1.306, ISI Indexed].
- [59] Muhammad, G., and **Hussain, M.**, “Passive Detection of Copy-Move Image Forgery using Undecimated Wavelets and Zernike Moments,” *Information-Tokyo*, vol.16 (5), pp. 2957-2964, May, 2013, (ISSN 1343-4500).
- [60] Ahmad, I., Alghamdi, A., **Hussain, M.**, Haque, M. A., “The Impact of Feature Subset Selection in MLP Based Intrusion Detection Mechanism,” *Information-Tokyo*, vol. 16(5), pp. 3145-3154, May, 2013.
- [61] Ahmad, I., Alghamdi, A., **Hussain, M.**, and Quadri, A., “On the Provisioning of Extending the Efficiency of Intrusive Analysis Engine through Optimal Feature Subset Selection,” *Information-Tokyo*, vol. 16(3A), pp. 2053-2062, March, 2013.

- [62] Noreen, N., Hayat, K., Madani, S. A., **Hussain, M.**, “Curvelet based Brain Tumor Detection from Magnetic Resonance Images,” *Information-Tokyo*, vol. 16(5), pp. 3259-3266, May, 2013.
- [63] **Hussain, M.**, “Ensemble Classifier for Benign-Malignant Mass Classification,” *International Journal of Computer Vision and Image Processing (IJCVIP)*, IGI Global, vol. 3(1), pp. 66-77, January-March 2013 (ISSN: 2155-6997).
- [64] Shicai Yang, Bebis G., and **Hussain, M.**, Ghulam M., Anwar M. Mirza, “Unsupervised Discovery of Visual Face Categories,” *International Journal on Artificial Intelligence Tools*, vol. 22, No. 1, February 2013 (ISSN: 0218-2130) [IF: 0.565, ISI Indexed].
- [65] Kausar, N., Samir, B. B., Ahmad, I., **Hussain, M.**, “Survey of Classification Techniques in Intrusion Detection System for Determining Optimized Solution,” *Information-Tokyo*, vol. 16(5), pp. 2987-2994, May, 2013.
- [66] **Hussain M.**, “Volume and Normal Field Based Simplification of Polygonal Models,” *Journal of Information Science and Engineering*, vol. 29(2), pp. 267-279, March 2013 (ISSN: 1016-2364) [IF: 0.468, ISI Indexed].
- [67] Sun, Z., Bebis, G., and **Hussain, M.**, “Vehicle Detection Using Probabilistic Fusion,” *The Arabian Journal of Science and Engineering*, vol. 38(10), pp. 2693–2701, Springer-Verlag, October 2013 (ISSN 1319-8025) [IF: 1.092, ISI Indexed].
- [68] Muhammad, G., **Hussain, M.**, Alenezy, F., Bebis, G., Mirza, A. M., Aboalsamh, H., “Race Classification from Face Images using Local Descriptors,” *International Journal on Artificial Intelligence Tools*, vol. 21(5), pp. 1–25, October 2012 [IF: 0.565, ISI Indexed].
- [69] Muhammad, G., **Hussain, M.**, and Bebis, G., “Passive copy move image forgery detection using undecimated dyadic wavelet transform,” *Digital Investigation*, vol. 9 (1), 2012, pp. 49–57, June 2012 (ISSN: 1742-2876) [IF: 1.660, ISI Indexed].
- [70] Ahmad, I., Abdullah, A., Alghamdi, A., **Hussain, M.**, “Optimized Intrusion Detection Mechanism Using Soft Computing Techniques,” *Telecommunication System Journal*, vol 52(4), pp 2187-2195, April 2013 (ISSN: 1018-4864) [IF: 1.527, ISI Indexed].
- [71] Ahmad, I., Abdullah, A., Alghamdi, A., **Hussain, M.**, “Distributed Denial of Service Attacks Detection Using Support Vector Machine,” *Information-Tokyo*, Vol. 14, No.1, 2011, pp.127-134, January 2011 [IF: 0.358 ISI Indexed].
- [72] Patten, T., Li, W., Bebis, G., **Hussain, M.**, and Freeman, M., “Assessing Insect Growth Using Image Analysis,” *International Journal on Artificial Intelligence Tools*, Vol 20, No.3, pp. 511-530, June 2011 [IF: 0.565, ISI Indexed].

- [73] Ahmad, I., Abdullah, A., Alghamdi, A., Alnfajan, K., **Hussain, M.**, “Intrusion detection using feature subset selection based on MLP”, *Scientific Research and Essays* 6 (34), pp. 6804, 2011.
- [74] **Hussain, M.**, “Efficient Simplification Method for Generating High Quality LODs of 3D Meshes,” *Journal of Computer Science and Technology*, Vol. 24, No. 3, May 2009, pp. 604 -613 (ISSN: 1000-9000) [IF: 0.878, ISI Indexed].
- [75] **Hussain, M.**, “Representation of Polygonal Surfaces as Displaced Subdivision Surfaces,” *Journal of Computer Science*, Vol. 5, No. 4, 2009, pp.242-249 [Scopus Indexed].
- [76] **Hussain, M.**, Abdulkirim, T., and Okada, Y., “Wavelet-Based Edge Detection in Digital Images,” *International Journal of Image and Graphics (IJIG)*, Vol. 8, No. 4, 2008, pp. 513-33.
- [77] Abdulkirim, T., **Hussain, M.**, Nijjima, K., and Takano, S., “The Dyadic Lifting Schemes and the Denoising of Digital Images,” *International Journal of Wavelets, Multiresolution and Information Processing (IJWMIP)*, Vol. 6, No. 3, 2008, pp 331-351, May 2008, (ISSN: 0219-6913) [ISI Indexed].
- [78] **Hussain, M.**, Okada, Y., and Nijjima, K., “An Efficient Method for Converting Polygonal Models into Displaced Subdivision Representation,” *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, Vol. E89-A, No. 3, 2006, pp. 807-816, March 2006 (ISSN: 1745-1337) [ISI Indexed].
- [79] **Hussain, M.**, Okada, Y., and Nijjima, K., “Future Preserving and Memory Efficient Simplification of Polygon Meshes,” *International Journal of Modelling and Simulation*, Vol. 25, No. 4, 2005, pp. 253-258 [Scopus Indexed].
- [80] **Hussain, M.**, Okada, Y., “LOD Modelling of Polygonal Models,” *Machine Graphics and Vision*, Vol. 14, No. 3, 2005, pp. 325-343 [Scopus Indexed].
- [81] **Hussain, M.**, “Displaced Subdivision Representation of Polygonal Models,” *International Journal of Computer Graphics and CAD/CAM*, Vol. 1, No. 2, 2005, pp.71-81.
- [82] **Hussain, M.**, Okada, Y., and Nijjima, K., “Efficient and Feature-Preserving Triangular Mesh Decimation,” *Journal of WSCG*, Vol. 12, No. 1, 2004, pp. 167-174 [Scopus Indexed].
- [83] **Hussain, M.**, Okada, Y., and Nijjima, K., “Fast, Simple, Feature Preserving and Memory Efficient Simplification of Triangle Meshes,” *Special issue of International Journal of Image and Graphics (IJIG) on 3D Vision and Medical Image Processing*, Vol. 3, No. 4, 2003, pp. 653-670.

BOOKS / EDITED BOOKS

- [84] Bebis, G.; Boyle, R.; Parvin, B.; Koracin, D.; Chung, R.; Hammoud; **Hussain, M.**; Tan, K.-H.; Crawfis, R.; Thalmann, D.; Kao, D.; Avila, L., *Advances in Visual Computing*, LNCS Vol. 6453, 6454, 6455, Springer 2010.
- [85] Muhammad Nadeem Ashraf, Zulfiqar Habib, **Hussain, M.**, Computer Aided Diagnosis of Diabetic Retinopathy, LAP LAMBERT Academic Publishing, Germany (ISBN: 978-3-659-77209-2), 2015.

BOOK CHAPTERS

- [86] **Hussain, M.**, Awabed Jibreen, Hatim Aboalsmah, Hassan Madkour, George Bebis and Gholamreza Amayeh, “Feature Selection for Hand-Shape Based Identification”, *Advances in Intelligent Systems and Computing*, Springer, Proc. CISIS 2015, Burgos, **SPAIN**.
- [87] Faezeh Tafazzoli, George Bebis, Sushil Louis and **Hussain, M.**, “Improving Human Gait Recognition Using Feature Selection”, *Advances in Visual Computing*, LNCS Springer (2014), Volume 8888, pp 830-840, Proc. 10th International Symposium on Visual Computing (ISVC'14), December 8-10, 2014, Las Vegas, Nevada, **USA**.
- [88] Anwar M. Mirza, **Hussain M.**, Huda Almuzaini, Ghulam Muhammad, Hatim Aboalsamh and George Bebis, “Gender Recognition using Fusion of Local and Global Facial Features”, *Advances in Visual Computing*, LNCS Springer (2013), Vol. 8034, pp 493-502, ISVC 2013, July 29-31, 2013, Crete, **Greece**.
- [89] Muneer H. Al-Hammadi, Ghulam Muhammad, **Hussain, M.**, and George Bebis, “Curvelet Transform and Local Texture Based Image Forgery Detection”, *Advances in Visual Computing*, LNCS Springer (2013), Vol. 8034, pp 503-512, ISVC 2013, July 29-31, 2013, Crete, **Greece**.
- [90] Sahar Q. Saleh, **Hussain, M.**, Ghulam Muhammad and George Bebis, “Evaluation of Image Forgery Detection Using Multi-Scale Weber Local Descriptors”, *Advances in Visual Computing*, LNCS Springer (2013), Vol. 8034, 2013, pp. 416-424, ISVC 2013, July 29-31, 2013, Crete, **Greece**.
- [91] **Hussain, M.**, Sarah Al-Otaibi, Ghulam Muhammad, Hatim Aboalsamh, George Bebis, Anwar M. Mirza, “Gender Recognition Using Nonsampled Contourlet Transform and WLD Descriptor” *Image Analysis, LNCS Springer (2013)*, Vol. 7944, 2013, pp. 373-383, *Proc. SCIA 2013*, June 17-20, 2013, Espoo, **Finland**.
- [92] **Hussain, M.**, Khan, S., Muhammad, G., and Bebis, G., “Mass Detection in Digital Mammograms using Optimized Gabor Filter Bank,” *Advances in Visual Computing, LNCS Springer (2012)*, Vol. 7432, 2012, pp. 82-91, *ISVC 2012*, July 16-18, 2012, Crete, **Greece**.
- [93] Ihsan Ullah, **Hussain, M.**, Aboalsamh, H., Muhammad, G., Bebis, G., and Mirza, A. M., “Gender Recognition from Face Images with Dyadic Wavelet Transform and Local Binary

- Pattern,” *Advances in Visual Computing, LNCS Springer (2011)*, Vol. 7432, 2012, pp 409-419, ISVC 2012, July 16-18, 2012, Crete, Greece.
- [94] Najah M., **Hussain, M.**, Ghulam M., and Bebis, G., “A Non-Intrusive Method for Copy-Move Forgery Detection” *Advances in Visual Computing, LNCS Springer (2011)*, Vol. 6939, pp. 516-525, ISVC2011, Sept. 26-28, 2011, Las Vegas, USA.
- [95] Kausar, N., Samir, B. B., Abdullah, A., Ahmed, I., **Hussain, M.**, “A Review of Classification Approaches Using Support Vector Machine in Intrusion Detection,” *Informatics Engineering and Information Science - Communications in Computer and Information Science Springer (2011)*, Vol. 253, 2011, pp. 24-34, ICIEIS 2011, November 14-16, 2011, Kuala Lumpur, Malaysia.
- [96] **Hussain, M.**, “Fast and Reliable Decimation of Polygonal Models based on Volume and Normal Field,” *Advances in Visual Computing, LNCS Springer (2010)*, Vol. 6453, pp. 64-73, Proc. ISVC 2010, NV, USA (**Best Paper Award**).
- [97] **Hussain, M.**, “Fast Decimation of Polyhedra,” *Advances in Visual Computing, LNCS Springer (2008)*, Vol. 5358, pp. 119-128, ISVC 2008, Dec. 3~4, 2008, Las Vegas, USA.
- [98] **Hussain, M.**, Okada, Y., and Nijjima, K., “User-Controlled Multiresolution Modeling of Polygonal Models,” *Computer Vision and Graphics, Computational Imaging and Vision Springer (2006)*, Vol. 32, pp. 125-130, ICCVG 2004, September 22-24, 2004, Warsaw, Poland.
- [99] Hussain, M., Okada, Y., and Nijjima, K., “Efficient Simplification of Triangular Meshes,” *Geometric Modeling, Techniques, Applications, Systems and Tools*, pp. 203-214. Editor: M. Sarfraz, John Wiley and Sons Ltd, UK, 2003.

INTERNATIONAL CONFERENCE PAPERS

- [100] **Hussain, M.**, Hatim Aboalsamh, Saeed Bamatraf, Emad-ul-Haq Qazi, “Color Histogram Features for the Classification of Brain Signals using 2D and 3D Educational Content”, International conference on Computer Applications & Information Security (ICCAIS'2019). 01-03 May, 2019, Riyadh, Saudi Arabia.
- [101] Fahman Saeed, **Hussain M.** and Hatim Aboalsamh, “Classification of Live Scanned Fingerprints using Histogram of Gradient Descriptor”, Proc. of SCS-NCC' 2018, Apr. 25 – 26, 2018, Riyadh, Saudi Arabia.
- [102] Fahman Saeed, **Hussain, M.** and Hatim Aboalsamh, “Classification of Live Scanned Fingerprints using Dense SIFT based Ridge Orientation Features”, Proc. of ICCAIS'2018, 04-06 April, 2018, Riyadh, Saudi Arabia.
- [103] Raqinah Alrabiah, **Hussain, M.**, Hatim A. Aboalsamh, Mansour Zuair, George Bebis, “Pooled Homomorphic Binary Rotation Invariant and Noise Tolerant Face Recognition

- under Varying Illumination”, LNCS Springer, vol. 10072, pp. 779-789, Proc. ISVC 2016, December 12-14, 2016 Las Vegas, Nevada, USA.
- [104] Mariam Busaleh, **Hussain, M.**, Hatim A. Aboalsamh, Mansour Zuair, George Bebis “False Positive Reduction in Breast Mass Detection using the Fusion of Texture and Gradient Orientation Features”, LNCS Springer, vol. 10072, pp. 669–678, Proc. ISVC 2016, December 12-14, 2016 Las Vegas, Nevada, **USA**.
- [105] Qazi Emad-ul-Haq, **Hussain, M.**, Hatim Aboalsamh, Saeed Bmatraf, Ihsan Ullah “An Intelligent System to Classify Epileptic and Non-Epileptic EEG Signals”, Proc. 12th International Conference on Signal Image Technology & Internet-Based Systems (SITIS 2016), 28 November–1 December 2016, Naples, **Italy**.
- [106] Saeed Bamatraf, **Hussain, M.**, Hatim Aboalsamh, Hassan Mathkour, Aamir Saeed, Hafeez Ullah Amin, Ghulam Muhammad1, Emad-Ul-Haq Qazi1, “A System based on 3D and 2D Educational Contents for True and False Memory Prediction using EEG Signals”, Proc. IEEE EMBS-NER 2015, pp. 1096-1099, April 22-24, 2015, Montpellier, **France**.
- [107] Hafeez Ullah Amin, Aamir Saeed Malik, Nasreen Badruddin, Nidal Kamel, **Hussain, M.** “Effects of Stereoscopic 3D Display Technology on Event-related Potentials (ERPs)”, Proc. IEEE EMBS-NER 2015, pp. 1084-1087, April 22-24, 2015, Montpellier, **France**.
- [108] Saeed Bamatraf, Hatim Aboalsamh, **Hussain M.**, Hassan Mathkour, Emad-Ul-Haq Qazi, Aamir Malik, HafeezUllah Amin, “Studying the Effects of 2D and 3D Educational Contents on Memory Recall using EEG Signals, PCA and Statistical Features”, in Proc. AIMS 2015, IEEE Computer Society, pp. 187-192, Madrid Spain, 2014.
- [109] **Hussain M.**, Sarah Al-Otaibi, Hatim Aboalsamh, George Bebis, Ghulam Muhammad, “Nonsampled Contourlet Transform Based Descriptors for Gender Recognition,” Proc. CGIV 2014, IEEE Computer Society Press, **Singapore, 2014**.
- [110] Muhammad Nadeem Ashraf a, Zulfiqar Habiba, **Hussain M.**, “Texture Feature Analysis of Digital Fundus Images for Early Detection of Diabetic Retinopathy,” Proc. CGIV 2014, IEEE Computer Society Press, **Singapore, 2014**.
- [111] **Hussain, M.**, Sahar Q. Saleh, Hatim Aboalsamh, Ghulam Muhammad, and George Bebis “Comparison between WLD and LBP Descriptors for Non-intrusive Image Forgery Detection”, Proc. INISTA 2014, IEEE Computer Society Press, Alberobello, **Italy, 2014**.
- [112] Ghulam Muhammad, M. Solaiman Dewan, Mohammad Moniruzzaman, **Hussain, M.**, Mohammad Nurul Huda “Image Forgery Detection using Gabor Filters and DCT” Proc. ICEEICT 2014, IEEE Computer Society Press , Dhaka, **Bengladesh**.
- [113] Hafeez Ullah Amin, Aamir Saeed Malik, Nasreen Badruddin, **Hussain, M.** Nidal Kamel, Weng-Tink Chooi, “Brain Behavior during Reasoning and Problem Solving Task: An EEG Study”, Proc. 5th International Conference on Intelligent and Advanced Systems ((ICIAS2014), to appear, 2014, Kuala Lumpur, **Malaysia**.

- [114] Syed Jamal Safdar Gardezi, Ibrahima Faye, Nidal Kamel, Mohamed Meselhy Eltoukhy, **Hussain, M.**, “Performance Analysis of Morphological Component Analysis (MCA) Method for Mammograms Using Some Statistical Features”, Proc. 3rd International Conference on Fundamental and Applied Sciences (ICFAS2014), to appear, 2014, Kuala Lumpur, **Malaysia**.
- [115] Amani A. Alahmadi, **Hussain M.**, Hatim Aboalsamh, Ghulam Muhammad, George Bebis, “Splicing Image Forgery Detection Based on DCT and Local Binary Pattern”, Proc. GlobalSIP 2013, IEEE Computer Society Press, pp. 253-256, December 3-5, 2013, Austin, Texas, **USA**.
- [116] **Hussain, M.**, Ghulam Muhammad, Sahar Q. Saleh, Anwar M. Mirza, George Bebis, “Image Forgery Detection Using Multi-Resolution Weber Local Descriptors”, Proc. EUROCON 2013, IEEE Computer Society Press, pp. 1570 - 1577, July 1-4, 2013, Zagreb, **Croatia**.
- [117] Motasem AlSawadi, Ghulam Muhammad, **Hussain, M.**, and George Bebis, “Copy-move image forgery detection using local binary pattern and neighborhood clustering,” European Modeling Symposium (EMS), Manchester, **UK**, November 2013.
- [118] Ghulam Muhammad, Muneer H. Al-Hammadi, **Hussain M.**, Anwar M. Mirza, George Bebis, “Copy Move Image Forgery Detection Method Using Steerable Pyramid Transform and Texture Descriptor”, Proc. EUROCON 2013, IEEE Computer Society Press, pp. 1586 - 1592, July 1-4, 2013, Zagreb, **Croatia**.
- [119] Ghulam Muhammad, Faten A. Alomar, **Hussain, M.**, Anwar M. Mirza, Hatim Aboalsamh, and George Bebis, “Gender Recognition from Faces Using Bandlet and Local Binary Patterns” Proc. IWSSIP 2013, IEEE Computer Society Press, pp. 59 - 62, July 7-9, 2013, Bucharest, **Romania**.
- [120] Maryam Jaber, George Bebis, **Hussain, M.**, and Ghulam Muhammad, “Improving the Detection and Localization of Duplicated Regions in Copy-Move Image Forgery”, Proc. DSP 2013-18th International Conference on Digital Signal Processing, IEEE Computer Society, pp. 1 - 6, July 1-3, 2013, Santorini, **Greece**.
- [121] **Hussain, M.**, “False Positive Reduction using Gabour Feature Subset Selection”, Proc. ICISA 2013, IEEE Computer Society Press, pp. 218-221, June 24-26, 2013, Pattaya, **Thailand**.
- [122] Taghreed Alamri, **Hussain, M.**, Ghulam Muhammad, Hatim Aboalsamh, George Bebis and Anwar M. Mirza, “Category Specific Face Recognition Based on Gender”, Proc. ICISA 2013, IEEE Computer Society Press, pp. 214-217, June 24-26, 2013, Pattaya, **Thailand**.

- [123] **Hussain, M.**, Muhammad, G., Bebis, G., “Face Recognition using Multiscale and Spatially Enhanced Weber Law Descriptor,” *Proc. SITIS 2012, IEEE Computer Society Press*, pp. 85-89, Nov. 25-29, 2012, Naples, **Italy**.
- [124] **Hussain, M.**, Muhammad, G., Sahar Q. S., Bebis, G., and Mirza, A. M., “Copy-move Image Forgery Detection using Multi-resolution Weber Descriptors,” *Proc. SITIS 2012, IEEE Computer Society Press*, pp. 395-401, Nov. 25-29, 2012, Naples, **Italy**.
- [125] **Hussain, M.**, Khan, S., Muhammad, G., and Bebis, G., “A Comparison of Different Gabor features for Mass Classification in Mammography,” *Proc. SITIS 2012, IEEE Computer Society Press*, pp. 142-148, Nov. 25-29, 2012, Naples, **Italy**.
- [126] Berbar, M. A., Reyad, Y. A., **Hussain, M.**, “Breast Mass Classification using Statistical and Local Binary Pattern Features,” *Proc. IEEE GMAI 2012-7th International Conference on Geometric Modeling and Imaging, IEEE Computer Society Press*, pp. 486-490, 11-13 July 2012, Montpellier, **France**.
- [127] **Hussain, M.**, Khan, S., Muhammad, G., and Bebis, G., “Mass Detection in Digital Mammograms using Gabor Filter Bank,” *Proc. IET Image Processing*, July 2~3, 2012, London, **UK**.
- [128] Muhammad, G., **Hussain, M.**, Mirza, A. M., and Bebis, G., “Dyadic wavelets and DCT based blind copy-move image forgery detection,” *Proc. IET Image Processing*, July 3~4, 2012, London, **UK**.
- [129] Muhammad, G., **Hussain, M.**, Alenezy, F., Bebis, G., , Mirza, A. M., Aboalsamh, H., “Race Recognition using Local Descriptors,” *Proc. 37th IEEE ICASSP 2012*, pp. 1525 – 1528, March 25~30, 2012, Kyoto, **Japan**.
- [130] **Hussain, M.**, Khan, N., “Automatic Mass Detection in Mammograms using Multiscale Spatial Weber Local Descriptor,” *Proc. 19th IEEE IWSSIP 2012*, pp. 288- 291, April 11~14, Vienna, **Austria**.
- [131] Ihsan Ullah, **Hussain, M.**, Muhammad, G., Aboalsamh, H., Bebis, G., and Mirza, A. M., “Gender Recognition from Face Images with Local WLD Descriptor,” *Proc. 19th IEEE IWSSIP 2012*, pp. 417 – 420, April 11~14, Vienna, **Austria**.
- [132] Muhammad, G., **Hussain, M.**, Alenezy, F., Bebis, G., Mirza, A. M., and Aboalsamh, H., “Race Recognition from Face Images Using Weber Local Descriptor,” *Proc. 19th IEEE IWSSIP 2012*, pp. 421 - 424, April 11~14, Vienna, **Austria**.
- [133] Kausar, N., Samir, B. B., Sulaiman, S. B., Ahmad, I., **Hussain, M.**, “An Approach towards Intrusion Detection using PCA Feature Subsets and SVM,” *Proc. ICCIS 2012-International Conference on Computer & Information Sciences, IEEE Computer Society Press*, pp. 569-574, June 12-12, 2012, Kuala Lumpur, **Malaysia**.

- [134] Gumaiei, A., El-Zaart, A., Hussain, M., Berbar, M., “Breast Segmentation using K-means Algorithm with A Mixture of Gamma Distributions,” *RELABIRA 2012, IEEE Computer Society Press*, pp. 97-102, May 28-29, 2012, **Lebanon**.
- [135] **Hussain, M.**, Summrina K. W., Elzaart, A., Berbar, M. A., “Comparison of SVM Kernel Functions for Breast Cancer Detection,” *Proc. CGIV2011, IEEE Computer Society Press*, pp. 145-150, August 17-19, 2011, **Singapore**.
- [136] Najah M., **Hussain, M.**, Ghulam M., and Bebis, G., “Copy-move forgery detection using dyadic wavelet transform” *Proc. CGIV2011, IEEE Computer Society Press*, pp. 103-108, August 17-19, 2011, **Singapore**.
- [137] Muhammad, G., **Hussain, M.**, Khawaji, K., and Bebis. G., “Blind Copy Move Image Forgery Detection using Dyadic Wavelet Transform,” *Proc. DSP 2011-17th International Conference on Digital Signal Processing, IEEE Computer Society*, pp. 1-6, July 6-8, 2011, Corfu, **Greece**.
- [138] Ahmad, I., Abdullah, A., Alghamdi, A., **Hussain, M.**, Al-Nafjan, K., “Features Subset Selection for Network Intrusion Detection Mechanism Using Genetic Eigen Vectors,” *Proc. ICTTA 2011-International Conference on Telecommunication Technology and Applications*, pp. 75-79, May 2-4, 2011, Sydney, **Australia**.
- [139] Kausar, N., Samir, B. B., Abdullah, A., Ahmad, I., **Hussain, M.**, “Improving Intrusion Detection Using an Optimized Approach of SVM,” *Proc. HONET 2011-8th International Conference on High-capacity Optical Networks and Emerging Technologies*, December 19-21 2011, Riyadh, **KSA**.
- [140] Kausar, N., Samir, B. B., Abdullah, A., Ahmed, I., **Hussain, M.**, “An Overview of Network Attacks for Developing Intrusion Detection Mechanism,” *Proc. WCIT-2011, Procedia-Computer Science, Elsevier*, November 22-27, 2011, Antalya, **Turkey**.
- [141] Amayeh, G., Bebis, G., and **Hussain, M.**, “A Comparative Study of Hand Recognition Systems,” *Proc. ETCHB-2010, IEEE Computer Society*, pp. 1-6, August 2010, Istanbul, **Turkey**.
- [142] Alsaaran, H., **Hussain, M.**, “Simplification of Polygonal Models for Distributed Visualization,” *Proc. GMAI09, IEEE Computer Society*, pp. 241-246, 15 - 17 July 2009, Barcelona, **Spain**.
- [143] **Hussain, M.**, “A Comparison of Efficient Decimation Algorithms for Polygonal Models,” *Proc. GMAI 2007, IEEE Computer Society*, pp. 67-72, July 4-6, 2007, Zurich, **Switzerland**.
- [144] **Hussain, M.**, Okada, Y., and Nijjima, K., “Multilevel Edge Detection,” *Proc. ISSPA 2005-8th International Symposium on Signal Processing and its Applications, IEEE Computer Society*, August 28-31, 2005, Sydney, **Australia**

- [145] **Hussain, M.**, Okada, Y., and Niijima, K., “Conversion of Polygonal Surfaces to Displaced Subdivision Surfaces,” *Proc. GMVAG2005*, July 21-26, 2005, Salt Lake City, Utah, **USA**.
- [146] **Hussain, M.**, Okada, Y., and Niijima, K., “User-Controlled Simplification of Polygonal Model,” *Proc. 3DPVT04-2nd International Symposium on 3D data Processing, Visualization, and Transmission*, IEEE Computer Society, pp. 918-925, September 6-9, 2004, Thessaloniki, **Greece**.
- [147] **Hussain, M.**, Okada, Y., and Niijima, K., “A Unified Framework for User-Controlled Simplification,” *Proc. CGIV04-International Conference on Computer Graphics, Imaging, and Visualization*, IEEE Computer Society Press, July 27-29, 2004, Penang, **Malaysia**.
- [148] **Hussain, M.**, Okada, Y., and Niijima, K., “LOD modeling of polygonal models based on multiple choice optimization,” *Proc. MMM2004-10th International Multi-Media Modelling Conference*, IEEE Computer Society Press, pp. 203-210, January 5-7, 2004, Brisbane, **Australia**.
- [149] **Hussain, M.**, Okada, Y., and Niijima, K., “A Fast and Memory-efficient Method for LOD Modeling of Polygonal Models,” *Proc. GMAG03-2003 International Conference on Geometric Modeling and Graphics 2003*, IEEE Computer Society Press, pp. 137-142, July 2003, London, **UK**.
- [150] **Hussain, M.**, Okada, Y., and Niijima, K., “Displaced Subdivision Meshes,” *Proc. MSO03-International Conference on Modeling, Simulation and Optimization*, pp. 214-219, June 2003, Banff, **CANADA**.
- [151] **Hussain, M.**, Okada, Y., and Niijima, K., “Displaced $\sqrt{3}$ Subdivision Surfaces,” *Proc. SIACG '02-1st Ibero-American Symposium in Computer Graphics*, pp. 17-20, July 2-5, 2002, Guimaraes, **Portugal**.
- [152] **Hussain, M.**, Okada, Y., and Niijima, K., “Feature Preserving Simplification of Polygonal Models,” *Proc. CISST'02-International Conference on Imaging Science, Systems, and Technology*, pp.791-797, June 24-27, 2002, Las Vegas, **USA**.
- [153] **Hussain, M.**, Okada, Y., and Niijima, K., “Efficient Simplification of Polygonal Surface Models,” *Proc. IV2001-5th International Conference on Information Visualization 2001*, IEEE Computer Society Press, pp. 464-469, July 2001, London, **UK**.
- [154] **Hussain, M.**, Okada, Y., and Niijima, K., “Fast, Simple and Memory Efficient Mesh Simplification,” *Proc. CGIM2001-4th International Conference on Computer Graphics and Imaging*, pp. 72-77, August 2001, Hawaii, **USA**.
- [155] Sarfraz, M., Habib, Z., **Hussain, M.**, “Piecewise Interpolation for designing of Parametric Curves,” *Proc. IV'98-2nd International Conference on Information Visualization*, IEEE Computer Society Press, pp. 307-313, August 1998, London, **UK**.

- [156] Sarfraz, M., **Hussain, M.**, Siddiqi S.S., Ali, J. M., “Designing with Rational Cubic Splines,” *Proc. International Conference on the Applications of Numerical Methods in Engineering*, pp. 520-526, **Malaysia**.
- [157] Sarfraz, M., **Hussain, M.**, Habib, Z., “Local Convexity Preserving Rational Cubic Spline Curves,” *Proc. IV’97-1st International Conference on Information Visualization, IEEE Computer Society Press*, pp. 211-217, August 1997, London **UK**.
- [158] Sarfraz, M., **Hussain, M.**, “A Rational Quadratic B-Spline Method with Shape Control,” *Proc. ISCIS1995-10th International Symposium on Computer and Information Sciences, IEEE Computer Society Press*, pp. 573-580, October-November 1995, Izmir, **Turkey**.

RESEARCH REPORTS

- [159] **Hussain, M.**, George Bebis, Ghulam Muhammad, Anwar M. Mirza, *Category Specific Face Recognition*, NPST, King Saud University, Riyadh, Report No. 10-INF1044-02, July 2013.
- [160] **Hussain, M.**, Ali El-Zaart and Mohamed Berbar, *Computer Aided Diagnosis System for Breast Cancer Detection*, NPST, King Saud University, Riyadh, Report No. 08-INF325-02, Jan 2013.
- [161] **Hussain, M.**, *LOD Modeling of Real 3D Objects*. Research centr, King Saud University, Riyadh, Report No. RC4/427-428, May, 2008.
- [162] **Hussain, M.** *Simplification and Refinement for Hierarchical Structure of Triangular Meshes*. Ph. D. Thesis, Kyushu University, Japan, 2003.
- [163] **Hussain, M.** *Rational Quadratic B-Spline Curves and Surfaces for use in Computer Graphics*. M.Phil. Thesis, Punjab University, Pakistan, 1993.