Refereed Journal Papers (22)

- Nandal, S. and Kumar, S., Single Image Fog Removal Algorithm in Spatial Domain using Fractional Order Anisotropic Diffusion, Accepted for publications in Multimedia Tools and Applications (Springer), 2018
- Musanna, F. and Kumar, S., A Novel Fractional order Chaos-based Image Encryption using Fisher Yates Algorithm and 3-D Cat Map, Accepted for publications in Multimedia Tools and Applications (Springer), 2018
- 3. Kumar, P. and Kumar, S., A modified variational functional for estimating dense and discontinuity preserving optical flow in various spectrum, **International Journal of Electronics and Communications**, 70 (3) (2016), 289-300
- 4. Saini, D. and Kumar, S., Stereo Vision based Conic Reconstruction using a Ray-Quadric Intersection, **Journal of Image and Graphics**, <u>15(4)</u> (2015), 1550019 [22 pages]
- 5. Saini, D. and Kumar, S., A Skeleton-Based 3D Shape Reconstruction of Free-Form Objects with Stereo Vision, **3D Research (Springer)**, <u>6</u> (2015) 37[17 pages]
- 6. Mekonnen, G., Kumar, S. and Pathak, P. M., Wireless Hybrid Visual Servoing of Omnidirection Wheeled Mobile Robots, Robots and Autonomous Systems, <u>75(B)</u> (2015), 450-462
- 7. Saini, D., Kumar, S. and Gulati, T. R., Reconstruction of Freeform Space Curves using NURBS-Snakes based Energy Minimization Approach, **Computer Aided Geometric Design (Elsevier)**, 33: 30-45, 2015.
- 8. Bala, A., Kumar, S. and Bhargava, R., 2D–3D Non-rigid Registration Using Depth from Gradient Information, 3D Research (Springer), <u>6</u> (2015), 34[11 pages]
- 9. Asha Rani, Balasubrmanian Raman and Sanjeev Kumar, A Robust Watermarking Scheme Exploiting Balanced Neural Tree for Rightful Ownership Protection, **Multimedia Tools and Applications** (Springer), 72(3): 2225-2248, 2014.
- 10. Sanoj Kumar, **Sanjeev Kumar**, N. Sukavanam and Balasubramanian Raman, Dual Tree Fractional Quaternion Wavelet Transform for Disparity Estimation, **ISA Transactions (Elsevier)**, 53(2): 547-559, 2014.
- 11. Asha Rani, **Sanjeev Kumar**, Christian Micheloni, Gian Luca Foresti,, Incorporating Linear Discriminant Analysis in Neural Tree for Multidimensional Splitting, **Applied Soft Computing (Elsevier)**, 13(10): 4219–4228, 2013.
- 12. Sanoj Kumar, **Sanjeev Kumar**, N. Sukavanam and Balasubramanian Raman, Human Visual System and Segment-Based Disparity Estimation, **AEÜ International Journal of Electronics and Communications (Elsevier)**, 67(5): 372–381, 2013.
- 13. Sanoj Kumar, **Sanjeev Kumar**, Balasubramanian Raman and N. Sukavanam, An Efficient Disparity Estimation Using Fractional Dual-Tree Complex Wavelet Transform: A Multiscale Approach, **International Journal of Wavelets, Multiresolution and Information Processing (World Scientific)**,11: 1350004 (21 pages), 2013.
- 14. **Sanjeev Kumar** and Asha Rani, DF-LDA Tree: A Nonlinear Multilevel Classifier for Pattern Recognition, **Journal of Experimental and Theoretical Artificial Intelligence (Taylor and Francis)**, 25(2): 177-188, 2013.

- 15. Christian Micheloni, Asha Rani, **Sanjeev Kumar** and Gian Luca Foresti, A Balanced Neural Tree for Pattern Classification, **Neural Network Journal (Elsevier)**, 27: 81-90, 2012.
- 16. **Sanjeev Kumar**, Asha Rani, Christian Micheloni and Gian Luca Foresti, An Application of Balanced Neural tree for Classifying Tentative Matches in Stereo Vision, **Optical Engineering Journal (SPIE)**, 51(8): 87202, 2012.
- 17. **Sanjeev Kumar** and Manoj Kumar, Application of Neural Network in Integration Shape from Shading and Stereo, **Computer and Information System (Elsevier)**, 24(2): 129-136, 2012.
- 18. **Sanjeev Kumar**, Christian Micheloni, Claudio Piciarelli and Gian Luca Foresti, Stereo Rectification of Uncalibrated and Heterogeneous, **Pattern Recognition Letters (Elsevier)**, 31: 1445-1452, 2010.
- 19. **Sanjeev Kumar**, R. Balasubramanian, Reconstruction of Cubic Curves from Two or More Images using Geometric Intersection, **International Journal of Information and System Sciences** (Institute for Scientific Computing and Information), 5(1): 98-111, 2009.
- 20. Gaurav Bhatnagar, **Sanjeev Kumar**, Balasubramanian Raman and N. Sukavanam Stereo Image Coding via Digital Watermarking, **Journal of Electronic Imaging** (SPIE), 18(3), 033012, 2009.
- 21. **Sanjeev Kumar**, Manoj Kumar, R. Balasubramanian, Depth Recovery of Complex Surfaces using Texture-less Pairs of Stereo Images, **Electronic Letters on Computer Vision and Image Analysis** (ELCVIA), 2009, 8(1), 44-56, 2009.
- 22. N. Sukavanam, R. Balasubramanian and **Sanjeev Kumar**, Error estimation in reconstruction of quadratic curves in 3-D space, **International Journal of Computer Mathematics** (Taylor and Francis), Vol. 84, No. 1, pp. 121-132, 2007.

Refereed Book Chapters (04)

- 23. **Sanjeev Kumar**, Christian Micheloni and G.L. Foresti, Stereo Vision in a Network of Cooperative Cameras, Smart Camera, A. N. Belbachir (Ed.), Springer+ Science Media, 2009, 267-280.
- 24. **Sanjeev Kumar** and Balasubramanian Raman, An Optimally Robust Watermarking Algorithm for Stereo Image Coding, Recent Advances in Multimedia Signal Processing and Communications: Studies in Computational Intelligence, Mislav Grgic, Kresimir Delac, Mohammed Ghanbari (Eds), Springer, 2009, 467-493
- 25. **Sanjeev Kumar**, Christian Micheloni, Claudio Piciarelli, Stereo Localization Using Dual PTZ Camera, Computer Analysis of Images and Patterns, X. Jiang (Ed.), Springer, 2009, 1061-1069.
- 26. **Sanjeev Kumar**, Christian Micheloni and Balasubramanian Raman, Multiresolution Depth Map Estimation in PTZ Camera Network, Intelligent Multimedia Surveillance: Current Trends and Research (Springer), P. Atrey, M. Kankanhalli and A. Cavallaro (Editors), ISBN: 978-3- 642-41511-1, pp. 149-169, 2013.

Full Papers in peer-Reviewed Conference Proceedings (27)

- 27. Kumar, S., Kumar, A., Histogram-based Motion Estimation of Underwater Images, AIP conference proceedings, 1975(1), 2018
- 28. Nandal, S. and Kumar, S., Image Denoising using Fractional Quaternion Wavelet Transform, Proc. of 2nd Int. Conference on Computer Vision and Image Processing, AISC (Springer), 704, 301-313, 2017
- 29. Farhan, M., Rani, A. and Kumar, S., Image Encryption Using Chaotic 3-D Arnold's Cat Map and Logistic Map, Proc. of 2nd Int. Conference on Computer Vision and Image Processing, AISC (Springer), 704, 365-378, 2017

- 30. Gossaye, M., Kumar, S., Pathak, P. M., A New Dynamic Control Model with stability analysis for Omnidirectional Mobile Robot, to be appeared in proceeding of ACM conference on Advanced in Robotics to be held at the BITS Pilani Goa campus during July 02-04, 2015.
- 31. Kumar, P., Kumar, S. and Balasubramanian, R., A Vision Based Motion Estimation in Underwater Images, to be appear in proceeding of IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI-2015) to be held from August 10-13, 2015, Aluva, Kochi (Kerala), India.
- 32. Kumar, P., Kumar, S. and Balasubramanian, R., Incorporating Discontinuity Preserving Approach for Optical Flow Estimation, published in the proceeding of 5th IEEE International Conference-Confluence, 941-946, September 25-26, 2014, Noida, India
- 33. Anu Bala, Kumar S., Bhargava R., Recovering Depth Map from Enhanced Image Gradients in Fourier Domain, in proceeding of IEEE Int. Conf. on Contemporary Computing and Informatics, 27-29 November 2014, Maysore, India
- 34. Agrawal, M., Kumar, S., Anu Bala Three dimensional object retrieval using a skeleton-based approach, IEEE International Conference on Advance Computing Conference, 1147-1151, February 21-22, 2014, Gurgaon, India
- 35. Anu Bala, Kumar, S., Bhargava, R., Surface Reconstruction by Evaluating Height from Gradient Values, IEEE International Conference on Advance Computing Conference, 1033-1036, February 21-22, 2014, Gurgaon, India
- 36. Saini, D., Kumar, S., Free-Form Surface Reconstruction from Arbitrary Perspective Images, IEEE International Conference on Advance Computing Conference, 1054-1059, February 21-22, 2014, Gurgaon, India
- 37. Gossaye, M., Kumar, S., Pathak, P. M., Self-Calibration of a Camera Equipped SCORBOT ER-4u Robot, in proceeding of 1st International and 16th National Conference on Machines and Mechanisms (iNaCoMM2013), pp. 788-793, IIT Roorkee, India, Dec 18-20, 2013
- 38. Kumar, S., A convex programming approach for establishing correspondence between stereo images, International Conference on Operations Research for Data Analytics & Decision Analysis 2013, October 21-23, 2013, Srinagar, India
- 39. Rani, A., Balasubramanian, R. and Kumar, S., A VC(2,2) based Blind Watermarking Scheme for Rightful Ownership Protection, in ICIAP 2013, LNCS-Springer at Naples ITALY during September 11-12, 2013.
- 40. Jain, H., Chatterjee, A., Kumar, S., Balasubramanian, R., Recognizing Human Gestures using Novel SVM Tree, in the proceeding of SPIE conference on Image ProcessinMachine Vision Applications, Burlingame, California, 2012, pp. 83000M-83000M-9.
- 41. Kumar, S., Kumar, S., Sukavanam, N. and Balasubramanian, R., Optical flow Estimation using Fractional Quaternion Wavelet Transform, in proc. of Int. Conf. on Industrial and Intelligent Information (ICIII -2012), pp. 47-51, Singapore, 2012.
- 42. Kumar, S., Rani, A., Micheloni, C. and Foresti, G. L., Supervised Learning based Stereo Matching using Neural Tree, International Conference on Image Analysis and Processing (ICIAP 2011), LNCS-Springer, pp. 178-188, Ravenna, Italy, 2011.
- 43. Rani, A. Balasubramanian, R. and Kumar, S., A Fragile Watermarking Scheme Exploiting Neural Tree for Image Tamper Detection, in the proceedings of the Int. Conf. on Soft Computing for Problem Solving, LNCS-Springer, pp. 547-554, Roorkee, India 2011.
- 44. Kumar, S., Kumar, S., Sukavanam, N. and Balasubramanian, R., Disparity Estimation using Fractional Dual Tree Complex Wavelet Transform, in proc. of IEEE International Conference on Image Information Processing (ICIIP -2011), pp. 1-6, JUIT Waknaghat, India, 2011.
- 45. Kumar, S., Sukavanam, N., Balasubramanian, R., Kumar, S., Human Visual System and Wavelet transform based disparity estimation, published in IEEE Int. Conf. on Emerging Trends in Engineering and Technology (ICETET), pp. 195-199, Mauritius, 2011.
- 46. Kumar, S., Kumar, S., Sukavanam, N. and Balasubramanian, R., Human Action Recognition in a Wide and Complex Environment, in proc. of SPIE Electronic Imaging: Real Time Image and Video Processing, Vol. 7871, pp. 78710I-7810I-12, San Francisco Airport, California, USA, 2011
- 47. Kumar, S., Rani, A., Micheloni, C., Human Action Recognition using a Novel NTLD Classifier, in proc. of IEEE Advanced Video and Signal based Surveillance (AVSS-10), pp. 262-269, Boston, USA, 2010.
- 48. Piciarelli, C., Kumar, S., Micheloni, C. and Foresti, G. L., Event recognition with PTZ cameras,

- International Conference on Imaging for Crime Detection and Prevention (ICDP-09), London, UK on 03 December 2009.
- 49. Kumar, S. and Piciarelli, C., Stereo Vision using Heterogeneous Sensors for Complex Scene Monitoring, in Proc. of International Conference on Computer Vision Theory and Applications (VISAPP-09), INSTICC, Lisbon, Portugal, 2009.
- 50. Kumar, S., Micheloni, C., Piciarelli, C., and Foresti, G.L., Stereo Localization based on Network's Uncalibrated Camera Pairs, IEEE International Conference on Audio and Video Signal based Surveillance (AVSS-09), Genova, Italy, 2009.
- 51. Kumar, S., Balasubramanian, R., Wu, J., Neuro-Calibration of a camera using particle swarm optimization, accepted in IEEE Int. Conf. on Emerging Trends in Engineering and Technology, Nagpur, India during 16-18 December 2009.
- 52. Kumar, S., Thakur, M., Balasubramanian, R. and Sukavanam, N., Stereo camera calibration using real coded genetic algorithm, In Proc. of IEEE TENCON, Hyderabad, INDIA, pp. 1569130311 [1-5], 2008
- 53. Kumar, S., Sukavanam, N. and Balasubramanian, R., Reconstruction of Quadratic Curves in 3-D from Two or more Arbitrary Perspective Views: Simulation Studies, Proceedings of the SPIE Vision Geometry XIV, IS&T/SPIE International Symposium on Electronic Imaging, Vol. 6066, pp. 6066M1-6066M11 (180-190), San Jose, California, USA, 2006

Technical Report (01)

54. Kumar, S. and Micheloni, C. Dual PTZ Stereo Rectification for Target Localization and Depth Map Computation. Technical Report, University of Udine, 2014.