

BIBLIOGRAPHY

- Abidi, B.R., Sari-Sarraf, J.S., Goddard, J.S., and Haut, M.A. (1999) Facet model and mathematical morphology for surface characterization, Proceedings of SPIE Conference on Intelligent Robots and Computer Vision XVIII : Algorithms, Techniques and Active Vision, Vol. 3837, Pp. 334-344.
- Ade, F., Lins, N. and Unser, M. (1984) Comparison of various filter sets for defect detection in textiles. Proceedings of 7th International Conference on Pattern Recognition, Vol. 1, Pp. 428-431.
- Aguilar, N.G., Garzon, J.R., Salazar, A.M. and Perez, F. (2004) Determination of textile local defects by digital image processing, Proceedings of SPIE, Vol. 5622, Pp. 177–181.
- Allen, R. and Mills, D. (2004) Signal Analysis: Time, Frequency, Scale, and Structure. Wiley Interscience, Hoboken
- Allgood, G.O., Treecea, D.A., Meeb, D.K. and Mooneyb, L.R. (2000) Textile laser-optical system for inspecting fabric structure and form, Machine vision applications in industrial inspection, Conference No8, San Jose CA, USA, Vol. 3966, Pp. 270-279.
- Anagnostopoulos, C., Anagnostopoulos, I., Vergados, D., Kouzas, G., Kayafas, E., Loumos, V., and Stassinopoulos, G. (2002) High performance computing algorithms for textile quality control, Mathematics and Computers in Simulation, Vol. 60, Issues 3-5, Pp. 389-400.
- Anagnostopoulos, C., Vergados, D., Kayafas, E., Loumos, V. and Stassinopoulos, G. (2001) A Computer Vision Approach for Textile Quality Control, Journal of Visualization and Computer Animation, Vol. 12, Pp. 31-44.
- Anstey, J., Peters, D. and Dawson, C. (2005) Discovering novelty in time series data, Proceedings of the 15th Annual Newfoundland Electrical and Computer Engineering Conference, St. Johns, Canada.
- Arivazhagan S., Ganesan L. and Bama S. (2006) Fault segmentation in fabric images using Gabor wavelet transform, Machine Vision and Applications, Vol. 16 , No. 6, Pp. 356–363.

- Asha V., Bhajantri N.U. and Nagabhushan P. (2011) Automatic Detection of Texture Defects using Texture-Periodicity and Gabor Wavelets, *Computer Networks and Intelligent Computing, Communications in Computer and Information Science*, Vol. 157, Pp. 548-553.
- Ayres, R.U. (1987) *Manufacturing and Human Labour as Information Processes*, Research Report RR-87-9, International Institute for Applied Analysis (IIASA), Luxembourg, Austria.
- Bamber, J.C. and Daft, C. (1986) Adaptive filtering for reduction of speckle in ultrasonic pulse-echo images, *Ultrasonics*, Pp. 41-44.
- Basu, M. and Lin, Z.Y. (1992) Multi-scale Modeling of Texture, *Proceedings of 11th IAPR International Conference on Pattern Recognition, Conference C: Image, Speech and Signal Analysis*, Vol. 3, No. 30, Pp. 421-424.
- Baykal, I.C. and Jullien, G.A. (2002a) Detection of Defects in Textures with Alignment Error for Real-time Line-scan Web Inspection Systems, *IEEE 45th Midwest Sym. Circuits and Systems (MWSCAS)*, Vol. 3, Issue 4-7, Pp. 292-295.
- Baykal, I.C., Muscedere, R. and Jullien, G.A. (2002b) On the use of Hash functions for defect detection in textures for in-camera web inspection systems, *IEEE International Symposium on Circuits and Systems (ISCAS)*, Vol. 5, Pp. 665-668.
- Baykut, A., Atalay, A. and Ercil A. and Guler M. (2000) Real-time defect inspection of textured surfaces, *Real-Time Imaging*, Vol. 6, Pp. 17-27.
- Baykut, A., Ozdemir, S., Meylani, R., Ercil, A. and Ertuzun, A. (1998) Comparative Evaluation of Texture Analysis Algorithms for Defect Inspection of Textile Products, *Proceedings of the 14th International Conference on Pattern Recognition (ICPR)*, Vol. 2, Pp. 1738-1741.
- Behera, B.K. (2009) Automatic fabric inspection systems, *The Indian Textile Journal*, P. 1-4.
- Behera, B.K., Text, B. and Tech, M. (2004) Image-processing in Textiles, A critical appreciation of recent developments, *Textile Progress*, Vol. 35, No. 2/3/4, Pp. 127-137.

- Behra, B.K. and Mani, M.P. (2007) Characterization and classification of fabric defects using discrete cosine transformation and artificial neural network, *Indian Journal of Fibre and Textile research*, Vol. 32, Pp. 421-426.
- Behravan, M., Tajeripour, F., Azimifar, Z. and Boostani, R. (2011) Texton-Based Fabric Defect Detection and Recognition, *Iranian Journal of Electrical and Computer Engineering*, Vol. 10, No. 2, Pp. 57-69.
- Bennamoun, M. and Bodnarova, A. (1998) Automatic Visual Inspection and Flaw Detection in Textile Materials: Past, Present and Future, *Proceedings of IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, Pp. 4340–4343.
- Bennamoun, M. and Bodnarova, A. (2003) Digital image processing techniques for automatic textile quality control, *Systems Analysis Modelling Simulation*, Vol. 43, No. 11, Pp. 1581–1614.
- Bergsa, L., Duffy, N., Laegy, G., and Mazo, M. (2000) Industrial inspection using Gaussian functions in a color space, *Image and Vision Computing*, Vol. 18, Pp. 951-957.
- Bodnarova, A., Bennamoun, M. and Kubik, K.K. (1998) Defect Defection in Textile Materials Based on Aspects on The HVS, *Proceedings of IEEE International Conference on Systems, Man, and Cybernetics, San Diego (US)*, Pp. 4423–4428.
- Bodnarova, A., Bennamoun, M. and Latham, S. (2002) Optimal Gabor filters for textile flaw detection, *Pattern Recognition*, Vol. 35, Pp. 2973-2991.
- Bodnarova, A., Bennamoun, M. and Latham, S.J. (2000) A Constrained Minimisation Approach to Optimise Gabor Filters for Detecting Flaws in Woven Textiles, *Proceedings of IEEE International conference on Acoustics, Speech, and Signal Processing*, Vol. 6, Pp. 3606–3609.
- Bollinger, J. (2002) *Bollinger on Bollinger Bands*, McGraw-Hill.
- Boncellet, C. (2005). *Image Noise Models* Alan C. Bovik, *Handbook of Image and Video Processing*, Academic Press, ISBN 0121197921.

- Boukouvalas, C., Kittler, J, Marik, R, and Petrou, M. (1999) Color grading of randomly textured ceramic tiles using color histogram, IEEE Trans. Industrial Electronics, Vol. 46, Pp. 219-226.
- Brodatz Texture Database (2010) <http://www.ux.uis.no/~tranden/brodatz.html>, Last Accessed during October, 2013.
- Brodatz, P. (1956) Texture: A Photographic album for artists and designers, Dover, New York.
- Brzakovic, D. P., Bakic, P. R., and Liakopoulos, A. (1995) An approach to quality control of texture web materials, Proceedings of SPIE 2597, Pp. 60-69.
- Brzakovic, D.P., Bakic, P. R, Vuiovic, N. S., and Sari-Sarraf, H. (1997) A generalized development environment for inspection of web materials, Proceedings of IEEE International Conference on Robotics and Automation, Albuquerque, New Mexico, Pp. 1-8.
- Bu, H., Wang, J. and Huang, X. (2009) Fabric defect detection based on multiple fractal features and support vector data description, Engineering Applications of Artificial Intelligence, Vol. 22, Issue 2, Pp. 244-235.
- Cai, J. and Liu, Z. (2002) Pattern recognition using Markov random field models, Pattern Recognition, Vol. 35, No. 3, Pp. 725–733.
- Campbell J. G., Fraley C., Murtagh F., and Raftery A. E. (1996) Linear flaw detection in woven textiles using model-based clustering, Technical Report No. 314, Dept. of Statistics, University of Washington, Seattle, 1-15.
- Campbell, J.G. and Murtagh, F. (1998) Automatic visual inspection of woven textiles using a two-stage defect detector, Opt. Eng., Vol. 37, Pp. 2536-2542.
- Campbell, J.G., Hashim, A.A., McGinnity, T.M. and Lunney, T.F. (1998a) Flaw Detection in Woven Textiles by Neural Network, University of Ulster, Faculty of Informatics, Magee College, Preprint INFM-97-002.
- Campbell, J.G., Hashim, A.A. and Murtagh, F.D. (1998b) Flaw Detection in Woven Textiles using Space-dependent Fourier Transform, University of Ulster, Faculty of Informatics, Magee College, Preprint INFM-97-004.

- Casterllini, C., Francini, F., Longobardi, G., Tiribilli, B. and Sansoni, P. (1996) On-line textile quality control using optical Fourier transforms, *Optics and Lasers in Engineering*, Vol. 24, Pp. 19–32.
- Castilho, H.P., Goncalves, P.J.S., Pinto, J.R.C. and Serafim, A.L. (2007) Intelligent real-time fabric defect detection, *Image Analysis and Recognition, Lecture Notes in Computer Science, SpringerLink*, Vol. 4633, Pp. 1297-1307.
- Castro, K., Vandenameele, P., Rodriguez-Laso, M.D., Moens, L. and Madariaga, J.M. (2005) Improvements in the wallpaper industry during the second half of the 19th century: Micro-Raman spectroscopy analysis of pigmented wallpapers, *SpectrochimicaActa, Part A*, Vol. 61, Pp. 2357-2363.
- Chan, C.H. and Pang, G.K.H. (2000) Fabric defect detection by Fourier analysis, *IEEE Transactions on Industry Applications*, Vol. 36, No.5, Pp. 1267–1276.
- Chan, H.Y., Raju, C., Sari-Sarraf, H. and Hequet, E.F. (2005) A general approach to defect detection in textured materials using a wavelet domain model and level sets, *Proceedings of SPIE 60010D*, Pp. 1–6.
- Chaudhuri, B.B. and Sarkar, N. (1992) An Efficient Approach to Compute Fractal Dimension in Texture Image, *Proc. IEEE 11th IAPR, Conference A: Computer Vision and Applications*, Vol. 1, Pp. 358–361.
- Chen, C.C. and Chen, C.C. (1999) Filtering methods for texture discrimination, *Pattern Recognition Letters*, Vol. 20, Pp. 783-790.
- Chen, C.H., Pau, L.F. and Wang, P.S.P. (1993) *Handbook of Pattern Recognition and Computer Vision*, 2nd ed., World Scientific Publishing Company.
- Chen, C.S. (2006) Automatic Recognition of Fabric Weave Patterns by Fuzzy C-means Clustering Method, *Wool Textile Journal*, Pp. 50-52.
- Chen, J. and Jain, A.K. (1988) A structural Approach to Identify Defects in Textured Images, *Proceedings of IEEE International Conference on Systems, Man and Cybernetics (SMC1998)*, Vol. 1, Pp. 29–32.

- Chen, J.C. and Tu, A.Y. (2010) Recognition of Fabric Organization Based on Particle Swarm Optimization Algorithm, *Journal of Hubei University of Education*, Vol. 27, Pp. 15-17.
- Chen, T. and Wu, H.R. (2001a) Space variant median filters for the restoration of impulse noise corrupted images, *IEEE Transactions on Circuits Syst. II, Analog Digit. Signal Process.*, Vol. 48, No. 8, Pp. 784–789.
- Chetverikov D. and Henbury A. (2002) Finding defects in texture using regularity and local orientation, *Pattern Recognition*, Vol. 35, No. 10, Pp. 2165-2180.
- Chetverikov, D. (2000a) Structural Defects: General Approach and Application to Textile Inspection, *Proceedings of IEEE 15th International Conference on Pattern Recognition (IAPR2000)*, Vol. 1, Pp. 521–524.
- Chetverikov, D. (2000b) Pattern regularity as a visual key, *Image Vision Comput.*, Vol. 18, Pp. 975–985.
- Chien, H.T., Sheen, S.H., Lawrence, W.P., Razaziant, K., and Raptis, A.C. (1999) On-Loom, Real-Time, Noncontact Detection of Fabric Defects by Ultrasonic Imaging, *Review of Progress in Quantitative Nondestructive Evaluation (18B)*, Plenum Press, New York, Pp. 2217-2224.
- Chin, R.T. and Harlow, C.A. (1982) Automated visual inspection: a survey, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 4, No. 6, Pp. 557–573.
- Chiu, S.H., Chou, S. and Liaw, J.J. (2002) Textural defect segmentation using a Fourier-domain maximum likelihood estimation method, *Textile Research Journal*, Vol. 72, No. 3, Pp. 253–258.
- Cho, C.S., Chung, B.M. and Park, M.J. (2005) Development of real-time vision-based fabric inspection system, *IEEE Trans. Industrial Electronics*, Vol. 52, No. 4, Pp. 1073 – 1079.
- Choi, H.T., Jeong, S.H., Kim, S.R., Jaung, J.Y. and Kim, S.H. (2001) Detecting Fabric Defects with Computer Vision and Fuzzy Rule Generation. Part II: Defect Identification by a Fuzzy Expert System, *Textile Research Journal*, Vol. 71, No. 7, Pp. 563-573.

- Ciamberlini C, Francini F., Longobardi G., Sansoni P., and Tiribili B. (1996a) Defect detection in textured materials by optical filtering with structured detectors and self-adaptable masks, *Opt. Eng.*, Vol. 35, Pp. 835-844.
- Ciamberlini, C., Francini, F., Longobardi, G., Poggi, P., Sansoni, P. and Tiribilli, B.(1996b) Weaving defect detection by Fourier imaging, *Vision System Application SPIE*, Vol.2786, Pp.9–18.
- Cohen, F.S., Fan, Z. and Attali, S. (1991) Automated Inspection of Textile Fabrics Using Textural Models, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 13, No. 8, Pp. 803-808.
- Conci, A. and Proenca, C.B. (1998) A fractal image analysis system for fabric inspection based on a box-counting method, *Computer Networks and ISDN Systems*, Vol. 30, Pp. 1887–1895.
- Conci, A. and Proença, C.B. (2000a) A comparison between Image-processing Approaches to Textile Inspection, *Journal of the Textile Institute*, Vol. 91, Part 1, No. 2, Pp. 317-323.
- Conci, A. and Proença, C.B. (2000b) A Computer Vision Approach for Textile Inspection, *Textile Research Journal*, Vol. 70, Pp. 347-350.
- Connors, R.W., McMillan, C.W., Lin, K. and Vasquez-Espinosa, R.E. (1983) Identifying and locating surface defects in wood: part of an automated lumber processing system, *IEEE Trans. Pattern Anal. Machine Intell.*, Vol. PAMI-5, Pp. 573-583.
- Costa, M.F.M., Rodrigues, F., Guedes, J. and Lopes, J. (2000) Automated evaluation of patterned fabrics for defect detection, *Proceedings of SPIE*, Vol. 3831, Pp. 403-407.
- Daugman, J. (1980) Two-dimensional spectral analysis of cortical receptive field profiles, *Vision Research*, Vol. 20, Pp. 847–856.
- David, E.R. (1997) *Machine Vision: Theory, Algorithms, and Practicalities*, 2nd ed. New York, Pp. 569-572.
- Davis, L.S. and Mitiche, A. (1980) Edge Detection in Textures, *Computer Graphics and Image Processing*, Vol. 12, Pp. 25- 39.

- De Natale, F.G.B. (1986) Rank-order functions for the fast detection of texture faults, *International Journal of . Pattern Recognition and Artificial Intelligence*, Vol. 10, No. 8, Pp. 971-984.
- Deng, H. and Clausi, D.A. (2004) Gaussian MRF rotation-invariant features for image classification, *IEEE Trans. Pattern Analysis and Machine Intelligence*, Vol. 26, No. 7, Pp. 951–955.
- Dhivya, N., Anusuya Lakshmi, R. and Ramalakshmi, D. (2013) A Hybrid Approach for Detection And Classification of Fabric Faults In Textile Industries Using Wavelet Transform And GLCM Technique, *International Journal of Advanced Electrical and Electronics Engineering*, Vol. 2; Issue 4; Pp. 121-124.
- Ding, L., Xiao, L., Zhu, Y., Liu, W. and Liu, Y. (2002) Gabor Filter Based Automatic Textile Defect Detection, 2nd Int'l Conf. Image and Graphics, SPIE, Vol. 4875, Pp. 789–795.
- Dorrity, J., Vachtsevanos, G. and Jasper, W. (1995) Real-time fabric defect detection and control in weaving processes, *National Textile Center, Annual Report*, Pp. 143-152.
- Dorrity, J., Vachtsevanos, G. and Jasper, W. (1996) Real-time fabric defect detection and control in weaving processes, *National Textile Center, Annual Report*, Pp. 113-122.
- Duda, R.D. and Hart, P.E. (1972) Use of the Hough Transform to detect lines and curves in pictures, *Commun, ACM*, Vol. 15, Pp. 11-15.
- Egmont-Petersen, M., de Ridder, D. and Handels, H. (2002) Image Processing with neural networks – a review, *Pattern Recognition*, Vol. 35, Pp. 2279-2301.
- Elaleem, O.A., Elragal, H.M. and Shehata, H.M, (2006) Voice Message Priorities Using Fuzzy Mood Identifier, *Proceedings of the Twenty Third National Radio Science Conference, NRSC 2006*, Pp.1-6.
- Ercil, A. and Özüyılmaz, B. (1994) Automated Visual Inspection of Metallic Surfaces, *Proceedings of The Third International Conference on Automation, Robotics and Computer Vision (ICARCV'94)*, Singapore, Pp. 1950-1954. November 1994.

- Escofet, J., Millan, M.S., Abril, H. and Torrecilla, E. (1998a) Inspection of fabric resistance to abrasion by Fourier analysis, Proceedings of SPIE 3490, Pp. 207-210.
- Escofet, J., Navarro, R., Millan, M.S. and Pladellorens, J. (1998b) Detection of local defects in textile webs using Gabor filters, Optical Engineering, Vol. 37, No. 8, Pp. 2297–2307.
- Farooq, U., King, T.G., Gaskell, P.H. and Kapur, N. (2004) Machine vision using image data feedback for fault detection in complex deformable webs, Trans. Inst. Meas. and Control, Vol. 26, No. 2 Pp. 119-137.
- Fatemi-Ghomi, N., Palmer, P.L. and Petrou, M. (1996) performance evaluation of texture segmentation algorithms based on wavelets, Proceedings of the Workshop on Performance Characteristics of Vision Algorithms (ECCV), Cambridge, England.
- Frank, P.M. and Ding, X. (1997) Survey of robust residual generation and evaluation methods in observer-based fault detection systems, Journal of Process Control, Vol. 7, No. 6, Pp. 403-424.
- Gilbert, S.G. (2001) Wavelets and Other Orthogonal Systems, Boca Raton: Chapman.
- Goldberg, D. (1989) Genetic Algorithms in Search, Optimization, and Machine Learning. Addison-Wesley.
- Gonzalez, R.C. and Woods, R.E. (2007) Digital Image Processing, Pearson Prentice Hall.
- Guan, S. and Shi, X. (2008) Fabric Defect Detection Based on Wavelet Decomposition with One Resolution Level, International Symposium on Information Science and Engineering, Vol. Pp. 281-285.
- Guan, S., Shi, X., Cui, H. and Song, Y. (2008) Fabric Defect Detection Based on Wavelet Characteristics, IEEE Pacific – Asia Workshop on Computational Intelligence and Industrial Application, Pp. 366-370.
- Guruprasad, R and Behera, B.K. (2009) Automatic fabric inspection systems, The Indian Textile Journal, Instrumentation and IT, www.indiantextilejournal.com/articles/FAdetails.asp?id=2131, Last Access Date : August, 2013.

- Gururajan, A., Hequet, E.F. and Sarraf, H. (2008) Objective evaluation of soil release in fabrics, *Textile Research Journal*, Vol. 78, No. 9, Pp. 782–795.
- Haindl, M., Grim, J. and Mike, S. (2007) Texture Defect Detection, *Computer Analysis of Images and Patterns (CAIP)*, LNCS 4673, Lecture Notes in Computer Science, Vol. 2007, Pp. 987-994.
- Hajimowlana, S.H., Muscedere, R., Jullien, G.A. and Roberts, J.W. (1998) 1D Autoregressive Modeling for Defect Detection in Web Inspection Systems, *Proceedings of IEEE MWSCAS*, Pp. 318–321.
- Han R. and Zhang L. (2009) Fabric defect detection method based on Gabor filter mask, *Intelligent Systems, Global Congress on Intelligent Systems*, Vol. 3, Pp. 184-188.
- Han, Y. and Shi, P. (2007) An adaptive level-selecting wavelet transform for texture defect detection, *Image and Vision Computing*, Vol. 25, Pp. 1239-1248.
- Hao, Y., Feng, X. and Xu, J. (2012) Multiplicative noise removal via sparse and redundant representations over learned dictionaries and total variation, *Signal Processing, Science Direct*, Vol. 92, Issue 6, Pp. 1536-1549.
- Haralick, R.M. (1979) Statistical and structural approaches to texture, *Proceedings of the IEEE*, Vol. 67, No.5, PP. 786–804.
- Haralick, R.M., Shanmugam, K. and Dinstein, I. (1973) Textural features for image classification, *IEEE Trans. Systems, Man and Cybernetics*, Vol. 3, No. 6, Pp. 610–621.
- Haykin, S. (1999) *Neural Networks - A Comprehensive Foundation*, 2nd edition, Prentice-Hall.
- Henry, N.F.M. and Lonsdale, K. (Editors) (1969) *International Tables for X-ray Crystallography*, Vol. 1, Symmetry Groups, The International Union of Crystallography. The Kynoch Press, England.
- Henry, Y.T.N., Grantham, K.H.P. and Nelson, H.C.Y. (2011) Automated fabric defect detection-A review, *Image and Vision Computing*, Vol. 29, Pp. 442-458.

- Hoffer, L.M., Francini, F., Tiribilli, B. and Longobardi, G. (1996) Neural Network for the Optical Recognition of Defects in Cloth, *Optical Engineering*, Vol. 35, Issue 11, Pp. 3183-3190.
- Holland, J. (1992) *Adaptation in Nature and Artificial Systems*, MIT Press.
- Hong Kong Productivity Council (2000) *Textile Handbook 2000*, The Hong Kong Cotton Spinners Association.
- Hoseini, E., Farhadi, F. and Tajeripour, F. (2013) Fabric Defect Detection Using Auto-Correlation Function, *International Journal of Computer Theory and Engineering*, Vol. 5, No. 1, Pp. 114-117.
- Hou Z. and Parker J. M. (2005) Texture Defect Detection Using Support Vector Machines with Adaptive Gabor Wavelet Features, *Proc. of seventh IEEE Workshop on Application of Computer*, Vol. 1, Pp. 275–280.
- http://en.wikipedia.org/wiki/Discrete_wavelet_transform, Last Accessed during August, 2013.
- http://en.wikipedia.org/wiki/Wallpaper_group, Last Accessed during August, 2013.
- <http://lmb.informatik.uni-freiburg.de/research/dfg-texture/tilda>, TILDA Textile Texture Database, Last Accessed during August, 2013.
- <http://www.fashionunited.com/global-fashion-industry-statistics-international-apparel>, Last Accessed during October, 2013.
- <http://www.indiantextilejournal.com/articles/FAdetails.asp?id=4664>, Last Accessed during August, 2013.
- <http://www.textilemuseum.org/PDFs/TextileTerms.pdf>, An Introduction to Textile Terms, Last Accessed during August 2013.
- Hu, M.C. and Tsai, I.S. (2000) Fabric Inspection Based on Best Wavelet Packet Bases, *Textile Research Journal*, Vol. 70, No. 8, Pp. 662-670.
- Huang, C.C. and Chen, I.C. (2001) Neural-Fuzzy Classification for Fabric Defects. *Textile Research Journal*, Vol. 71, No. 3, Pp. 220-224.

- Huang, C.C. and Liu, S.C. (2001) Woven Fabric Analysis by Image Processing. Part 2: Computing the Twist Angle, *Textile Research Journal*, Vol. 71, Pp. 362-366.
- Huang, C.C., Liu, S.C. and Yu, W.H. (2000) Woven Fabric Analysis by Image Processing. Part 1: Identification of Weave Patterns, *Textile Research Journal*, Vol. 70, Pp. 481.
- Hurri, J. (1997) Independent Component Analysis of Image Data, MS thesis, Helsinki University of Technology, Helsinki, Finland.
- Iivarinen, J. (2000) Surface defect detection with histogram-based texture features, Society of Photo-Optical Instrumentation Engineers, Intelligent Robots and Computer Vision XIX: Algorithms, Techniques, and Active Vision, Vol. 4197, Pp. 140–145.
- Iivarinen, J., Rauhamaa, J. and Visa, A., (1996) Unsupervised Segmentation of Surface Defects, Proceedings of 13th IAPR International Conference on Pattern Recognition, Vienna, Austria, Pp. 356-360.
- Islam, A., Akhter, A. and Mursalin, T.E.(2008) Automated Textile Defect Recognition System Using Computer Vision and Artificial Neural Networks, *World Academy of Science, Engineering and Technology*, Vol. 13, Pp. 556-561.
- Jain, A.K. (2002) *Fundamental of Digital Image Processing*, Prentice Hall.
- Jain, A.K. and Farrokhnia, F. (1991) Unsupervised texture segmentation using Gabor filters, *Pattern Recognition*, Vol. 24, No.12, Pp. 1167–1186.
- Jain, A.K., Duin, R.P.W. and Mao, J. (2000) Statistical pattern recognition: a review, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 22, No.1, Pp. 4–37.
- Jasper, W., Joines, J. and Brenzovich, J. (2004) Fabric defect detection using a genetic algorithm tuned wavelet filter, *J. Textile Institute*, Vol. 96, Pp. 43-54.
- Jasper, W.J. and Potapalli, H. (1995) Image analysis of mispicks in woven fabrics, *Textile Research Journal*, Vol. 65, Pp. 683-692.

- Jasper, W.J., Garnier, S.J., and Potapalli, H. (1996) Texture characterization and defect detection using adaptive wavelets, *Optical Eng.*, Vol. 35, Pp. 3140-3149.
- Jiang, H.Y., Dong, M. and Li, W. (2009) Detection of Fabric Defect Based on Optimal Tree Structure of Wavelet Decomposition, *International Symposium on Intelligent Ubiquitous Computing and Education*, IEEE Computer Society, Pp. 210-213.
- Jolliffe, I.T. (2002) *Principal Component Analysis*, Series: Springer Series in Statistics, 2nd ed., Springer, NY, XXIX, 487, P. 28
- Jun, Y., Benyu, Z., Ning, L., Shuicheng, Y., Qiansheng, C., Weiguo, F., Qiang, Y., Wensi, X. and Zheng, C. (2006) Effective and efficient dimensionality reduction for large-scale and streaming data preprocessing, *IEEE transactions on Knowledge and Data Engineering*, Vol. 18, No. 3, Pp. 320-333.
- Kalavathy, S. and Suresh, R.M. (2011) A Switching Weighted Adaptive Median Filter for Impulse Noise Removal, *International Journal of Computer Applications*, Vol. 28, No.9, Pp.8-13.
- Kaneko, H. (1989) A Generalized Fractal Dimension and its Application to Texture Analysis, *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP1989)*, Vol. 3, Pp. 1711–1714.
- Kang, C.C. and Wang, W.J. (2009) Modified switching median filter with one more noise detector for impulse noise removal, *International Journal of Electronic Communications*, Vol. 63, Pp. 998-1004.
- Karayiannis, Y.A., Stojanovic, R., Mitropoulos, P., Koulamas, C., Stouraitis, T., Koubias, S. and Papadopoulos, G. (1999) Defect Detection and Classification on Web Textile Fabric using Multiresolution Decomposition and Neural Networks, *Proceedings of 6th IEEE International Conference on Electronic, Circuits and Systems*, Vol. 2, Pp. 765-768.
- Karrass, D.A. and Mertzios, B.G. (2002) Improved Defect Detection in Manufacturing Using Novel Multidimensional Wavelet Feature Extraction Involving Vector Quantization and PCA Techniques, *Advances in Artificial Intelligence, Lecture Notes in Computer Science*, Vo. 2557, Pp 638-647.

- Kasparis, T., Tzannes, N.S., Bassiouni, M. and Chen, Q. (1995) Texture description using fractal and energy features, *Computers and Electrical Engineering*, Vol. 21, No. 1, Pp. 21–32.
- Kauppinen, H. (2000) A two stage defect recognition method for parquet slab grading, *Proc. IEEE Conf. Pattern Recognition*, Barcelona (Spain), 4, Pp. 803-806.
- Keller, J., Crownover, R. and Chen, S. (1989) Texture description and segmentation through fractal geometry, *Computer Vision Graphics and Image Processing*, Vol. 45, Pp. 150-160.
- Kim, S., Bae, H., Cheon, S.P. and Kim, K.B. (2005) Online fabric-defects detection based on wavelet analysis, *Proceedings of the International conference on computational science and its applications (ICCSA)*, Lecture notes in computer science, Vol. 3483, Pp. 1075-1084.
- Kim, S., Lee, M., and Woo, K. (1999) Wavelet analysis to defect detection in weaving processes, *Proceedings of IEEE International Symposium on Industrial Electronics*, Vol. 3, Pp. 1406–1409.
- Kindermann, R. and Snell, J.L. (1980) *Markov Random Fields and Their Applications*, The American Mathematical Society, Providence, RI.
- Konda, O.R., Reddy, E.B. and Reddy, K.E. (2012) Texture Analysis and Defect Classification for Fabric Images Using Regular Bands and Quadratic Programming, *Proceedings of International Conference on Advances in Computing*, *Advances in Intelligent Systems and Computing*, Vol. 174, pp 927-934.
- Krueger, V. and Sommer, G. (2000) Gabor wavelet networks for object representation, *DAGM Symposium*, Germany, Pp. 13–15.
- Krueger, V. and Sommer, G. (2002) Gabor wavelet networks for efficient head pose estimation, *Image Vis. Comput.*, Vol. 20, Pp. 665–672.
- Kumar A. (2008) Computer vision-based fabric defect detection: a survey, *IEEE, Transactions on Industrial Electronics*, Vol. 55, Issue 1, Pp. 348-363.
- Kumar, A. (2003) Neural network based detection of local textile defects, *Pattern Recognition*, Vol. 36, Pp. 1645–1659.

- Kumar, A. and Gupta, S. (2000) Real time DSP based identification of surface defects using content-based imaging technique, Proceedings of IEEE Conference on Industrial Technology, Vol. 2, Pp. 113-118.
- Kumar A. and Pang G. (2000) Fabric defect segmentation using multichannel blob detectors, Optical Engineering, Vol. 39, No. 12, Pp. 3176–3190.
- Kumar, A. and Pang, G. (2002a) Defect detection in textured materials using optimized filters, IEEE Transactions on Systems, Man, and Cybernetics, Vol. 32, No. 5, Pp. 553-570.
- Kumar, A. and Pang, G. (2002b) Defect detection in textured materials using Gabor filters, IEEE Transactions on Industry Applications, Vol. 38, Issue 2, Pp.425-440.
- Kumar, A. and Shen, H.C. (2002) Texture inspection for defects using neural networks and support vector machines, Proceeding of International Conference on Image Process., ICIP-2002, Pp. 353-356.
- Kuo, C.F.J. and Lee, C. and Tsai, C. (2003a) Using a Neural Network to Identify Fabric Defects in Dynamic Cloth Inspection, Textile Research Journal, Vol. 73, No. 3, Pp. 238–244.
- Kuo, C.F.J. and Lee, C. (2003b) A back-propagation neural network for recognizing fabric defects, Textile Research Journal, Vol. 73, No. 2, Pp. 147–151.
- Kuo, C.F.J., Shih, C.Y. and Lee, J.Y. (2004) Automatic Recognition of Fabric Weave Patterns by a Fuzzy C-means Clustering Method, Textile Research Journal, Vol. 74, Pp. 107-111.
- Kuo, C.J. and Su, T. (2003) Gray relational analysis for recognizing fabric defects, Textile Research Journal, Vol. 73, No. 5, Pp. 461–465.
- Kwak, C., Ventura, J.A. and Tofang-Sazi, K. (2001) Automated defect inspection and classification of leather fabric, Intelligent Data Analysis, Vol. 5, Pp. 355–370.
- Lambert, G. and Bock, F. (1997) Wavelet methods for texture defect detection, IEEE International Conference on Image Processing, Vol. 3, Pp. 201–204.

- Lane, J. S. (1998) Texture fabric inspection system, US Patent No.5, 774,177.
- Latif-Amet, A., Ertuzun, A. and Ercil, A. (1998) Texture Defect Detection Using Subband Domain Co-occurrence Matrices, IEEE Southwest Sym. on Image Analysis and Interpretation, Pp. 205–208.
- Latif-Amet, L., Ertuzun, A., and Ercil, A. (2000) An efficient method for texture defect detection: Subband domain co-occurrence matrices, Image and Vision Computing, Vol. 18, Issue 6-7, Pp. 543–553.
- Lee, B. and Tarng, Y.S. (1999) Application of the discrete wavelet transform to the monitoring of tool failure in end milling using the spindle motor current, International Journal of Advanced Manufacturing Technology, Vol.15, No,4, Pp. 238–243.
- Leyton, M. (1992) Symmetry, Causality, Mind. The MIT Press, Cambridge, Massachusetts.
- Li, S. (2009) Markov Random Field Modeling in Image Analysis, Third Edition, Springer, Heidelberg.
- Li, T., Witty, P. and Tim, K. (1997) Machine vision in the inspection of patterned textile webs, IEE Colloquium on Industrial Inspection, digest No. 1997/041, Pp. 9/1-9/5.
- Lin, H.C., Wang, L.L. and Yang, S.N. (1997) Extracting periodicity of a regular texture based on autocorrelation functions. Pattern Recognition Letters, Vol. 18, Pp. 433-443.
- Liu, H. and Han, J. (2006) Defect Detection in Textiles Using Optimal Gabor Wavelet Filter, IEEE Proceedings of the 6th World Congress on Intelligent Control and Automation, Dalian, China, Pp. 10005–10007.
- Liu, J. and Ju, H. (2008) Fuzzy Inspection of Fabric Defects Based on Particle Swarm Optimization (PSO), RSKT 2008, Lecture Notes in Computer Science, Vol. 5009, Pp. 700–706.
- Liu, S.S. and Jernigan, M.E. (1990) Texture analysis and discrimination in additive noise, Computer Vision, Graphics and Image Processing, Vol. 49, Pp. 52-67.

- Liu, X., Wen, Z., Su, Z. and Choi, K.F. (2008) Slub extraction in woven fabric images using Gabor filters, *Textile Research Journal*, Vol. 78, No.4, Pp. 320–325.
- Liu, Y. (1990) *Symmetry Groups in Robotic Assembly Planning*. PhD thesis, University of Massachusetts, Amherst, MA.
- Liu, Y., Collins, R.T. and Tsin, Y. (2004) A Computational Model for Periodic Pattern Perception Based on Frieze and Wallpaper Groups, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol.26, Issue: 3, Pp. 354-371.
- Lukac, R. (2004) Adaptive color image filtering based on centerweighted vector directional filters, *Multidimensional Systems and Signal Processing*, Vol. 15, Pp. 169-196.
- Mahajan, P.M., Kolhe, S.R. and Pati P.M. (2009) A review of automatic fabric defect detection techniques, *Advances in Computational Research*, ISSN: 0975–3273, Volume 1, Issue 2, Pp.18-29.
- Mak K. L. and Peng P. (2008) An automated inspection system for textile fabrics based on Gabor filters, *Robotics and Computer-Integrated Manufacturing*, Vol. 24, No. 3, Pp. 359-369.
- Mak, K. and Peng, P. (2006) Detecting defects in textile fabrics with optimal gabor filters, *Transactions on Engineering, Computer and Technology*, Vol. 13, Pp. 75–80.
- Mak, K.L. and Peng, P. and Yiu, K.F.C. (2012) Fabric Defect Detection Using Multi-Level Tuned-Matched Gabor Filters, *Journal of Industrial and Management Optimization*, Vol. 8, No. 2, Pp. 325-341.
- Mak, K.L., Peng, P. and Lau, H.Y.K. (2005) Optimal Morphological Filter Design for Fabric Defect Detection, *IEEE Int'l Conf. Industry Technology (ICIT2005)*, Pp. 799–804.
- Mak, L.K. and Li, W. (2008) Objective Evaluation of Seam Pucker on Textiles by Using Self-Organizing Map, *International Journal of Computer Science*, Vol. 35, Issue 1, Pp. 1-8.

- Malamas, E.N., Petrakis, E.G.M., Zervakis, M., Petit, L. and Legat J.D. (2003) A survey on industrial vision systems, applications and tools, *Image and Vision Computing*, Vol. 21, Pp.171-188.
- Malek, A.S., Drean, J.Y., Bigue, L. and Osselin, J.F. (2011a) Automatic Fabric Inspection: invention or innovation?, *International Conference on Intelligent Textiles and Mass Customisation ITMC*, Casablanca, Morocco, 34, October 27-29.
- Malek, A.S., Drean, J.Y., Bigue, L. and Osselin, J.F. (2011b) Online fabric defect detection by Fast Fourier Transform and Cross-Correlation, *11th World Conference AUTEX*, Mulhouse, France.
- Mallat, S.G. (1989) A theory for multiresolution signal decomposition: the wavelet representation, *IEEE Trans. Pattern Analysis and Machine Intelligence*, Vol. 11, No. 7, Pp. 674–693.
- Mallik-Goswami, B. and Datta, A.K. (2000) Detecting Defects in Fabric with Laser-Based Morphological Image Processing, *Textile Research Journal*, Vol. 70, Pp. 758-762.
- Mandelbrot, B.B. (1982) *The Fractal Geometry of Nature*, Freeman, San Francisco.
- Manikandan, S., Uma Maheswari, O. and Ebenezer, D. (2004) Adaptive length Recursive weighted median filter with improved performance in impulsive noisy environment, *WSEAS transaction on Electronics*, Vol.1, Issue 3, Pp. 443-448.
- Marroquin, J.L., Santana, E.A. and Botello, S. (2003) Hidden Markov measure field models for image segmentation, *IEEE Trans. Pattern Analysis and Machine Intelligence*, Vol. 25, No. 11, Pp. 1380–1387.
- MathWorld (2010), <http://mathworld.wolfram.com/FourierSeries.html>, Last Accessed during October, 2013
- Mead, D.C., Kasdan, H.L. and Dorrity, J.L. (1978) Method for automatic fabric inspection, US Patent No. 4,124,300.

- Meier, R. (1996) UsterFabriscan, The Intelligent Fabric Inspection, http://www.kotonline.com/english_pages/ana_basliklar/uster.asp
- Mélange, T., Nachtegael, M. and Kerre, E.E. (2011) Fuzzy Random Impulse Noise Removal From Color Image Sequences, *IEEE Transactions on Image Processing*, Vol. 20, Issue 4, Pp. 959-970.
- Meylani, R., Ertuzun, A. and Ercil, A. (1996a) Texture Defect Detection using the Adaptive Two dimensional Lattice Filter, *Proceedings of IEEE International Conference on Image Processing (ICIP1996)*, Vol. 3, Op. 165–168.
- Meylani, R., Ertuzun, A. and Ercil, A. (1996b) A Comparative Study on the Adaptive Lattice Filter Structures in the Context of Texture Defect Detection, *Proceedings of IEEE ICECS*, Vol. 2, Pp. 976–979.
- Millan, M.S. and Escofet, J. (2004) NIR imaging of non-uniform colored webs. Application to fabric inspection, *Proceedings of SPIE*, Vol. 5622, Pp. 188–193.
- Mingde, B., Zhigang, S. and Yesong, L. (2012) Textural Fabric Defect Detection using Adaptive Quantized Gray-level Co-occurrence Matrix and Support Vector Description Data, *Information Technology Journal*, Vol. 11, Issue 6, Pp. 673-680.
- Mitchell, S. C., Bosch, J. G., Lelieveldt, B. P., van der Geest, R. J., Reiber, J. H. and Sonka, M. (2002) 3-D active appearance models: segmentation of cardiac MR and ultrasound images, *IEEE Transactions on Medical Imaging*, Vol. 21, No.9, Pp.1167–1178.
- Mitropoulos, P., Koulamas, C., Stojanovic, R., Koubias, S., Papadopoulos, G., and Karagiannis, G. (1999) A real-time vision system for defect detection and neural classification of web textile fabric, *Proceedings of the SPIE Electronic Imaging '99 International Conference*, San Jose, California, USA.
- Mohammad, J.M., Soheila, K., Hoseinpour, F.R. and Mahdi, J. (2011) An effective adaptive technique for impulse noise detection and reduction in digital images, *Proceedings of 2011 11th International Conference on Hybrid Intelligent Systems (HIS)*, , Pp. 217-222.

- Monadjemi, A. (2004) Towards efficient texture classification and abnormality detection, PhD Thesis, University of Bristol, UK.
- Mufti, M. and Vachtsevanos, G. (1995) Automated Fault Detection and Identification Using a Fuzzy-wavelet Analysis Technique, IEEE AUTOTESTCON, Pp. 169–175.
- Neubauer, C. (1992) Segmentation of Defects in Textile Fabric, Proc. IEEE 11th International Conference on Pattern Recognition (IAPR1992), Conference A: Computer Vision and Applications, Vol. 1, No. 30, Pp. 688–691.
- Newman, T.S. and Jain, A.K. (1995) A Survey of Automated Visual Inspection, Computer Vision and Image Understanding, Vol. 61, No. 2, Pp. 231-262.
- Ngan, H.Y.T. and Pang, G.K.H. (2009) Regularity analysis for patterned texture inspection, IEEE Transactions on Automation Science and Engineering, Vol. 6, No.1, Pp. 131–144.
- Ngan, H.Y.T. , Pang, G.K.H., Yung, S.P. and Ng, M.K. (2005) Wavelet based methods on patterned fabric defect detection, Pattern Recognition, Vol. 38, No.4, Pp. 559–576.
- Ngan, H.Y.T. and Pang, G.K.H. (2006) Novel method for patterned fabric inspection using Bollinger bands, Optical Engineering, Vol. 45, No. 8, Pp. 1-8.
- Ngan, H.Y.T. and Pang, G.K.H. (2007) Defect Detection on Patterned Objects, MECHATRONIC SYSTEMS—Devices, Design, Control, Operation, and Monitoring, Taylor and Francis, CRC Press, Pp. 24/1–24/10.
- Ngan, H.Y.T., Pang, G.K.H. and Yung, N.H.C. (2008) Motif-based defect detection for patterned fabric, Pattern Recognition, Vol. 41, No. 6, Pp. 1878 – 1894
- Ngan, H.Y.T., Pang, G.K.H., Yung, S.P. and Ng, M.K. (2003) Defect detection on patterned jacquard fabric, Proceeding of: Applied Imagery Pattern Recognition Workshop, China, Pp.163- 168
- Ngan, H.Y.T., Pang, G.K.H. and Yung, N.H.C. (2010a) Performance evaluation for motif-based patterned texture defect detection, IEEE Trans. Automation Science and Engineering, Vol. 7, No.1, pp. 58–72.

- Ngan, H.Y.T., Pang, G.K.H. and Yung, N.H.C. (2010b) Ellipsoidal decision regions for motif-based patterned fabric defect detection, *Pattern Recognition*, Vol. 43, No. 6, Pp. 2132–2144.
- Ngan, H.Y.T., Pang, G.K.H. and Yung, N.H.C. (2011) Automated fabric defect detection-A review, *Image and Vision Computing*, Vol. 29, Pp. 442-458
- Nikolova, M. (2004) A variational approach to remove outliers and impulse noise, *Journal of Mathematical Imaging and Vision*, Vol. 20, Pp. 99–120.
- Nishimatsu, T., Toba, E. and Sakai, T. (1995) Difference of Eye-Movements between Experts and Non-Experts in Fabric Inspection, *Journal of the Textile Machinery Society of Japan*, Vol. 41, No. 4, Pp. 104-108.
- Norton-Wayne, L., Bradshaw, M., and Jewell, A. J. (1992) Machine vision inspection of web textile fabric, *Proceedings of British Machine Vision Conf.*, Leeds (U.K.), Pp.217-226.
- Norton-Wayne, L., Bradshaw, M., and Sandby, C. (1993) Machine vision for the automated inspection of web materials, *Proceedings of SPIE 1989*, Pp.2-13.
- Occhipinti, L., Spoto, G., Branciforte, M., and Doddo, F. (2001) Defects detection and characterization by using cellular neural networks, *Proc. IEEE Conf. Circuits and Sys., ISCAS 2001*, Pp. 481-484.
- Ogata, N., Fukuma, S., Nishikado, H., Shirotsaki, A., Takagi, S. and Sakurai, T. (2005) An Accurate Inspection of PDP-mesh Cloth Using Gabor Filter, *Proc. IEEE Int'l Sym. Intelligent Signal Processing and Communication Systems*, Hong Kong, Pp. 65–68.
- Oodan, A.P. (1998) Framework for the determination of users QoS requirements, <http://archive.eurescom.eu/~public-seminars/1998/QUTE98/06Oodan/tsld001.htm>, Last Accessed during October, 2013.
- Ozdemir S., Baykut A., Meylani R., Ercil A., and Ertuzun A. (1998) Comparative Evaluation of Texture Analysis Algorithms for Defect Inspection of Textile Products, *Proceedings of International Conference on Pattern Recognition*, Vol. 2, Pp. 1738-1740.

- Ozdemir, S. and Ercil, A. (1996) Markov Random Fields and Karhunen–Loeve Transform for Defect Inspection of Textile Products, Proceedings of IEEE Conference on Emerging Technologies and Factory Automation (ETFFA1996), Vol. 2, Pp. 697–703.
- Paladini E.P. (2000) An expert system approach to quality control, Expert Systems with Applications, Vol. 18, Pp. 133-151.
- Pan, R.R. and Gao, W.D. (2008) High-precision Identification of Woven Fabric Density Via Image Processing, Journal of Textile Research, Vol. 29, Pp. 128-131.
- Pan, R.R., Gao, W.D. and Zhang, X.Y. (2008) High-precision Skew Rectification and Validation for Fabric Image, Journal of Textile Research, Vol. 29, Pp. 51-53.
- Pan, R.R., Gao, W.D., Liu, J.H. and Wang, H.B. (2010b) Automatic Identification of Woven Fabric Weave, Journal of Textile Research, Vol. 31, Pp. 43-47.
- Pan, R.R., Gao, W.D., Liu, J.H. and Wang, H.B. (2010a) Automatic Recognition of Woven Fabric Patterns Based on Pattern Database, Fibers and Polymers, Vol. 11, Pp. 303-308.
- Pearson, K. (1901) On Lines and Planes of Closest Fit to Systems of Points in Space, Philosophical Magazine, Vol.2, No.6, Pp. 559–572.
- Pentland, A.P. (1984) Fractal-based description of natural scenes, IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 6, Pp. 661-674.
- Ping, W., Junli, L., Dongming, L. and Gang, C. (2007) A Fast and reliable switching median filter for highly corrupted images by impulse noise, IEEE International Symposium on Circuits and Systems, Pp. 3427-3430.
- Qiu, S. and Sun, J. (2006) Web Surface Defect Inspection Based on Singularity Detection, Proceedings of IEEE International Conference Information Acquisition, Weihai, Shandong, China, Pp. 1364-1368.
- Raman, M. and Himanshu, A. (2010) A Novel Technique for Speckle Noise Reduction on Medical Images, International Journal of Applied Engineering Research, Vol. 5, No. 1, Pp. 16-23.

- Randen T and Husoy J. H. (1999) Filtering for texture classification: a comparative study, *IEEE Transactions on PAMI*, Vol. 21, No. 4, Pp. 291-310.
- Randen T. and Husoy J. (1994) Multichannel filtering for image texture segmentation, *Optical Engineering*, Vol. 33, No. 8, Pp. 2617-2625.
- Ribolzi, S, Merckle, J., and Gresser, J. (1993) Real time fault detection in textiles using optoelectronic processing, *Textile Research Journal*, Vol. 63, Pp. 61-71.
- Rohrmus, D. (2000) Invariant Web Defect Detection and Classification System, *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition*, Vol. 2, Pp.794-795.
- Ruda, R.O., Hart, P.E. and Stork, D.G. (2000) *Pattern Classification*, Second Edition, John Wiley & Sons, New York.
- Saeidi, R.G., Latifi, M., Najar, S.S. and Saeidi, A.G. (2005) Computer Vision-Aided Fabric Inspection System for On-Circular Knitting Machine, *Textile Research Journal*, Vol. 75, No. 6, Pp. 492-497.
- Sandy, C., Norton-Wayne, L. and Harwood, R. (1995) The Automated Inspection of Lace Using Machine Vision, *Mechatronics Journal*, Vol. 5, No. 2/3, Pp. 215-231.
- Sari-Sarraf, H. and Goddard, J.S. (1999) Vision system for on-loom fabric inspection, *IEEE Trans. Industry Applications*, Vol. 35, No.6, Pp. 1252–1259.
- Sarraf, H.S. and Goddard Jr., J.S. (1998) Robust Defect Segmentation in Woven Fabrics, *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR1998)*, Pp. 938–944.
- Scharcanski, J. (2005) Stochastic texture analysis for monitoring stochastic processes in industry, *Pattern Recognition Letters*, Vol. 26, Pp. 1701–1709.
- Schattschneider, D. (1978) The plane symmetry groups: their recognition and notation, *American Mathematical Monthly*, Vol. 85, Pp. 439-450.

- Schick Tanz, K. (1996) What can automatic fabric inspection offer us, ITMA 95 recapitulation, Translation of Melliand Textilberichte, Pp. 98-99.
- Schwarzenberger, R.L.E. (1974) The 17 plane symmetry groups, Mathematical Gazette, Vol. 58, Pp. 123-131.
- Semnani, D. and Ghayoor, H. (2009) Detecting and measuring fabric pills using digital image analysis, Proceedings of World Academy of Science, Engineering and Technology, Vol. 37, Pp. 897–900.
- Sengottuvelan, P, Wahi, A and Shanmugam, A. (2008) Automatic Fault Analysis of Textile Fabric Using Imaging Systems, Research Journal of Applied Sciences, Vol. 3, No.1, Pp. 26-31.
- Serafim, A.F.L. (1991) Multiresolution Pyramids for Segmentation of Natural Images Based on Autoregressive Models. Application to Calf Leather Classification, Proceedings of IEEE International Conference on Industrial Electronics, Control and Instrumentation (IECON'91), Vol. 3, Pp. 1842–1847.
- Serafim, A.F.L. (1992) Segmentation of Natural Images Based on Multiresolution Pyramids Linking of the Parameters of an Autoregressive Rotation Invariant Model Application to Leather Defect Detection, Proc. IEEE 11th IAPR International Conference on Pattern Recognition, Conference C: Image, Speech and Signal Analysis, Vol. 3, Pp. 41–44.
- Serdaroglu, A., Ertuzun, A., and Ercil, A. (2006) Defect detection in textile fabric images using wavelet transforms and independent component analysis, Pattern Recognition and Image Analysis, Pp. 61-64.
- Serra, J. (1982) Image Analysis and Mathematical Morphology, Academic Press, London.
- Sezer, O.G., Ertuzun, A. and Ercil, A. (2004) Independent component analysis for texture defect detection, Pattern Recognition Image Anal. Vol. 14, Pp. 303-307.
- Shady, E., Gowayed, Y., Abouiiiana, M., Youssef, S. and Pastore, C. (2006) Detection and Classification of Defects in Knitted Fabric Structures, Textile Research Journal, Vol. 76, No. 4, Pp. 295-300.

- Shanbhag, P.M., Deskmukh, M.P. and Suralkar, S.R. (2012) Overview: Methods of automatic fabric defect detection, *Global Journal of Engineering, Design and Technology*, Vol. 1, No. 2, Pp. 42-46.
- Shannon, C. and Weaver, W. (1998) *The mathematical theory of communication*, University of Illinois Press.
- Shao, C. and Kuze, E. (1990) Applicability of Table Reasoning Method for Fabric Defect Evaluation, *Journal of the Textile Machinery Society of Japan*, Vol. 36, No. 4, Pp. 133-139.
- Shapiro, L.G. and Stockman, G.C. (2001) *Computer Vision*, Pearson Prentice-Hall, ISBN 0130307963.
- Shi, M., Jiang, S., Wang, H. and Xu, B. (2009) Fabric Defect Detection Using Local Contrast Deviation Feature Extraction, *Multimedia Tools and Applications, Machine Vision and Applications*, Vol. 20, No. 2, Pp. 131-138.
- Shiau, Y.R., Tsai, I.S. and Lin, C.S. (2000) Classifying Web Defects with a Back-Propagation Neural Network by Color Image Processing, *Textile Research Journal*, Vol. 70, No. 7, Pp. 633-640.
- Shu, Y. and Tan, Z. (2004) Fabric Defects Automatic Detection Using Gabor Filters, *IEEE Proceedings of the 5th World Congress on Intelligent Control and Automation*, Hangzhou, China, Pp. 3378–3380.
- Siew, L.H., Hodgson, R.H. and Wood, E.J. (1988) Texture measures for carpet wear assessment, *IEEE Transactions on Pattern Anal. Machine Intell.*, Vol. 10, No. 1, Pp. 92-105.
- Smith, M.L. and Stamp, R.J. (2000) Automated inspection of textured ceramic tiles, *Computer in Industry*, Vol. 43, Pp. 73-82.
- Smolka, B. (2008) Peer group filter for impulsive noise removal in color images, *Lecture Notes in Computer Science (LNCS 5197)*, Springer-Verlag, Pp. 699-707.
- Srikaew, A., Attakitmongkol, K., Kumsawat, P. and Kidsang, W. (2011) Detection of Defect in Textile Fabrics Using Optimal Gabor Wavelet Network and Two-Dimensional PCA, *Advances in Visual Computing, Lecture Notes in Computer Science*, Vol. 6939, Pp. 436-445.

- Srinivasan, K., Dastoor, P.H., Radhakrishnaiah, P. and Jayaraman, S. (1992) Journal of Textile Institute, Vol. 83, No.3, Pp. 1431-1448.
- Stojanovic, R., Mitropulos, P., Koulamas, C., Karayiannis, Y., Koubias, S. and Papadopoulos, G. (2001) Real-time Vision-Based System for Textile Fabric Inspection, Real-time Imaging, Vol. 7, Pp. 507-518.
- Su, T.L., Kuo, Y.L., Chen, H.W. and Kung, F.C. (2010) Grey Relational Analysis of an Automatic Identifying System for Clothing Texture. Fibres and Textiles in Eastern Europe, Vol. 18, No. 2, Pp. 60-64.
- Sylla, C. and Drury, C.G. (1995) Signal detection for human error correction in quality control, Computers in Industry, Vol. 26, No. 2, Pp. 147-159.
- Tajeripour, F., Kabir, E. and Sheikhi, A. (2008) Fabric defect detection using modified local binary patterns, EURASIP Journal on Advances in Signal Processing, Article No. 783898, Vol. 8, Pp. 1-12.
- Tao, L., Witty, P. and King, T. (1997) Machine Vision in the Inspection on Patterned Textile Webs, Industrial Inspection (Digest No:1997/041), IEE Colloquium, Pp.9/1-9/5.
- Tilocca, A. (2002) Detecting fabric defects with a neural network using two kinds of optical patterns, Textile Research Journal, Vol. 72, Issue 6, Pp. 545-550.
- Tin-Chi, L. (2004) Fabric defect detection by wavelet transform and neural network, University of Hong Kong.
- Tolba, A.S. and Abu-Rezeq, A.N. (1997) A self-organizing feature map for automated visual inspection of textile products, Computers in Industry, Vol. 32, Pp. 319-333.
- Truchetet, F. and Laligant, O. (2004) Wavelets in industrial applications: a review, Proceedings of The International Society for Optical Engineering, Vol. 5607, Pp. 1-14.
- Truchetet, F. and Laligant, O. (2008) A review on industrial applications of wavelet and multiresolution based signal-image processing, Journal Electronic Imaging, Pp. 1-8.

- Tsai, D. and Huang, T. (2003) Automated Surface Inspection for Statistical Textures, *Image and Vision Computing*, Vol. 21, Pp. 307-323.
- Tsai, D.M. and Hsieh, C.Y. (1999) Automated surface inspection for directional textures, *Image and Vision Computing*, Vol. 18, Pp. 49–62.
- Tsai, D.M. and Chiang, C.H. (2003) Automatic band selection for wavelet reconstruction in the application of defect detection, *Image and Vision Computing* 21, Pp. 413–431.
- Tsai, D.M. and Hsiao, B. (2001) Automatic surface inspection using wavelet reconstruction, *Pattern Recognition*, Vol. 34, Pp. 1285–1305.
- Tsai, D.M. and Lin, C.P. (2002) Fast defect detection in textured surfaces using 1D Gabor filters, *The Int'l Journal of Advanced Manufacturing Technology*, Vol. 20, Pp. 664–675.
- Tsai, D.M. and Wu, S.K. (2000) Automated surface inspection using Gabor filters, *International Journal on Advanced Manufacturing Technology*, Vol. 16, Pp. 474–482.
- Tsai, I.S., Lin, C.H. and Lin, J.J. (1995) Applying an artificial neural network to pattern recognition in fabric defects, *Textile Research Journal*, Vol. 65, No. 3, Pp. 123–130.
- Unser, M. (1986) Local linear transforms for texture measurements, *Signal Processing*, Vol. 11, Pp. 61-79.
- Unser, M. and Ade, F. (1984) Feature extraction and decision procedure for automated inspection of textured materials, *Pattern Recognition Letters*, Vol. 2, No. 3, Pp. 185-191.
- Vafaie, H. and Jong, K.D. (1992) Genetic Algorithms as a Tool for Feature Selection in Machine Learning. 4th Int'l Conf. Tools with Artificial Intelligence, IEEE Computer Society Press, Pp. 200-203.
- Valarmathie, P., Srinath, M. and Dinakaran, K., (2009) An increased performance of clustering high dimensional data through dimensionality reduction technique, *Journal of Theoretical and Applied Information Technology*, Vol. 13, Pp. 271-273.

- Vergados D., Anagnostopoulos C., Anagnostopoulos I., Kayafas E., Loumos V. and Stassinopoulos G. (2001) An Evaluation of Texture Segmentation Techniques for Real-Time Computer Vision Applications, *Advances in Automation, Multimedia and Video Systems and Modern Computer Science*, WSES Press, Pp. 332-335.
- Vilnrotter, F., Nevatia, R. and Price, K. (1986) Structural analysis of natural textures, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 8, Pp. 76–89.
- Voss, R.I (1986) Random fractals: Characterization and measurement, *Scaling Phenomena in Disordered Systems*, R. Pynn and A. Skjeltorp Eds.
- Wald, L. (1999) Some terms of reference in data fusion, *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 37, No. 3, Pp. 1190-1193.
- Wang, Z., Bovik, A.C., Sheikh, H.R. and Simoncelli, E.P. (2004) Image quality assessment: from error visibility to structural similarity, *IEEE Transactions on Image Processing*, Vol. 13, No. 4, Pp. 600–612.
- Wang, L. and Liu, J. (1999) Texture classification using multiresolution Markov random field models, *Pattern Recognition Letters*, Vol. 20, Pp. 171–182.
- Wang, Z. and Zhang, D. (1999) Progressive switching median filter for the removal of impulse noise from highly corrupted images, *IEEE Transactions on Circuits and Systems II*, Vol. 46, Pp. 78–80.
- Weeks, A.R. (1996) *Fundamentals of Electronic Image Processing*, SPIE Optical Engineering Press and IEEE Press.
- Wilson, R. and Li, C. (2003) A class of discrete multiresolution random fields and its application to image segmentation, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 25, No. 1, Pp. 42–56.
- Wood, E.J. (1990) Applying Fourier and associated transforms to pattern characterization in textiles, *Textile Research Journal*, Vol. 60, Pp. 212–220.
- Xie, L.Q. and Yu, W.D. (2008) Applied Technique of Automatic Measurement of Warp and Weft Densities in Fabrics: 1. Method of Measurement, *Journal of Textile Research*, Vol. 29, Pp. 26-30.

- Xie, X. (2008) A Review of Recent Advances in Surface Defect Detection using Texture analysis Techniques, *Electronic Letters on Computer Vision and Image Analysis*, Vol. 7, No. 3, Pp. 1-22.
- Yang, R., Lin, L., Gabbouj, M., Astola, J. and Neuvo, Y. (1995) Optimal weighted median filters under structural constraints, *IEEE Trans.Signal Processing*, Vol. 43, Pp. 591–604.
- Yang, X., Pang, G. and Yung, N. (2005) Robust fabric defect detection and classification using multiple adaptive wavelets, *IEE Proceedings Vision, Image Signal Processing*, Vol. 152, No. 6, Pp. 715-723.
- Yang, X.Z. (2003) Discriminative Fabric Defect Detection and Classification Using Adaptive Wavelet, Ph.D. Thesis, The University of Hong Kong.
- Yang, X.Z., Pang, G. and Yung, N. (2002a) Fabric Defect Classification Using Wavelet Frames and Minimum Classification Error Training, *IEEE 2002 37th IAS Industry Applications Conference Meetings*, Vol.1, Pp. 290-296.
- Yang, X.Z., Pang, G.K.H. and Yung, N.H.C. (2002b) Discriminative fabric defect detection using adaptive wavelets, *Optical Engineering*, Vol. 41, No. 12, Pp. 3116–3126.
- Yang, X.Z., Pang, G.K.H. and Yung, N.H.C. (2004) Discriminative training approaches to fabric defect classification based on wavelet transform, *Pattern Recognition*, Vol. 37, No. 5, Pp. 889–899.
- Yazdi, H.R. and King, T.G. (1998) Application of vision in the loop for inspection of lace fabric, *Real-Time Imaging*, Vol. 4, Pp. 317–332.
- Yin, Y., Zhang, K. and Lu, W. (2009) Textile Flaw Classification by Wavelet Reconstruction and BP Neural Network, *ISNN 2009, Part II, Lecture Notes in Computer Science*, Vol. 5552, Pp. 694–701.
- Yu, Y. and Acton, S.T. (2002) Speckle Reducing Anisotropic Diffusion, *IEEE Transactions on Image Processing*, Vol. 11, Pp.1260- 1270
- Yuan, T., Dong, D., Guori, C., Li, W. and Hua, Z. (2006) Automatic Defect Detection in X-Ray Images Using Image Data Fusion, Vol. 11, No. 6, Pp. 720-724.

- Yuen, C.W.M., Wong, W.K., Qian, S.Q., Chan, L.K. and Fung, E.H.K. (2009a) A hybrid model using genetic algorithm and neural network for classifying garment defects, *Expert Systems with Applications: An International Journal*, Vol. 36, No. 2, Pp. 2037-2047.
- Yuen, C.W.M., Wong, W.K., Qian, S.Q., Fan, D.D., Chan, L.K. and Fung, E.H.K. (2009b) Fabric Stitching Inspection Using Segmented Window Technique and BP Neural Network. *Textile Research Journal*, Vol. 79, No. 1, Pp. 24-35.
- Zeng, P.F. and Hirata, T. (2002) On-Loom Fabric Inspection Using Multi-scale Differentiation Filtering, *IEEE 37th IAS Industry Applications Conference Meetings*, Vol.1, Pp. 320-326.
- Zhang, J., Xin, B. and Wu, X. (2013) A Review of Fabric Identification Based on Image Analysis Technology, *Textiles and Light Industrial Science and Technology (TLIST)*, Vol. 2, Issue 3, Pp. 120-130.
- Zhang, Q. and Benveniste, A. (1992) Wavelet networks, *IEEE Transactions on Neural Network*, Vol. 3, No. 6, Pp. 889–898.
- Zhang, S. and Karim, M.A. (2002) A new impulse detector for switching median filters, *IEEE Signal Processing Letters*, Pp. 360–363
- Zhang, Y., Lu, Z. and Li, J. (2010) Fabric defect classification using radial basis function network, *Pattern Recognition Letters*, Vol. 31, No.13, Pp. 2033–2042.
- Zhang, Y.F and Bresee, R.R. (1995) Fabric defect detection and classification using image analysis, *Textile Research Journal*, Vol. 6, Pp. 1–9