

National Conference on Signal and Image Processing Applications 2009

IET Seminar Digests 2009/1

**Maharashtra, India
19-20 September 2009**

ISBN: 978-1-61738-794-4

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by the Institution of Engineering and Technology
All rights reserved.

Printed by Curran Associates, Inc. (2010)

For permission requests, please contact the Institution of Engineering and Technology
at the address below.

Institution of Engineering and Technology
P. O. Box 96
Stevenage, Hertfordshire
U.K. SG1 2SD

Phone: 01-441-438-767-328-328
Fax: 01-441-438-767-328-375

www.theiet.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Combining Level-3 Features with Perspiration Pattern for Robust Fingerprint Recognition.....	1
<i>A. Abhyankar</i>	
Texture Realization Using 2D-MA Random Field Model	6
<i>M. S. Sutaone, R. A. Bhagwat, P. P. Bartakke</i>	
Real Time Full Frame Dense Stereo Vision Using Indexed Histogram.....	11
<i>J. Butala, V. Udpikar</i>	
JPEG Tuned Compressed Domain Watermarking Technique.....	15
<i>M. S. Raval</i>	
3-D Object Recognition Through Next View Planning.....	20
<i>S. D. Roy</i>	
On Paradigm Shift in Computing Using Soft Computing.....	24
<i>P. J. Kulkarni</i>	
A Review of Spread Spectrum Watermarking Techniques	29
<i>S. N. Talbar, G. V. Lokhande</i>	
Speech Based Watermarking for Digital Images	34
<i>J. N. Jariwala, P. P. Rege</i>	
Image Registration Under Translation Using a Multiresolution Hybrid Metric Approach.....	41
<i>A. B. Shah, P. Mithun, V. M. Gadre</i>	
Compression of Medical Images Using Generic Vector Quantizer Designed with Kohonen's Self Organizing Feature Maps	46
<i>Y. H. Dandawate, M. A. Joshi</i>	
Musical Information Extraction from the Singing Voice	53
<i>P. Rao</i>	
Adaptive Audio Watermarking Methods and Their Performance Evaluation for Indian Musical Signals.....	57
<i>M. R. Patil, S. D. Apte</i>	
Dynamic Iris Localisation: A Novel Approach Suitable for Fake Iris Detection	63
<i>R. Bodade, S. Talbar, A. Batnagar</i>	
Fingerprint Classification by Ridge Orientation and Singular Point Analysis.....	67
<i>S. Mohammadi, S. Fazli, A. Farajzadeh</i>	
Face Recognition in Constrained Environment Using Hidden Markov Model Approach	73
<i>P. Shah, S. Kar, S. Hiremath, D. G. Joshi, V. K. Chadda</i>	
Color Iris Recognition in Controlled Conditions	77
<i>A. A. Khan, I. Hyder</i>	
Face Recognition Using Partitioned Iterated Function System	81
<i>A. D. Potgantwar, S. G. Bhirud</i>	
Iris Image Analysis for Biometric System	86
<i>U. M. Chaskar, M. S. Sutaone, S. Panwar</i>	
Iris Recognition Using Texture Analysis and Band Limited Phase Only Correlation	93
<i>V. S. Vyas, M. S. Sewani</i>	
Handwriting and Signature Recognition	97
<i>S. M. Kakade, P. P. Bartakke</i>	
Implementation of Translational and Rotational Palm Print Recognition	101
<i>H. Shankar S, K. Kiran, N. Mohandas, T. R. Jenifer Syla</i>	
A Study on Edge Detection Techniques in Retinex Based Adaptive Filter	106
<i>M. H. Abhilash, K. Madhuri</i>	
LSB Steganography in Gray Scale Images	111
<i>S. N. Kore, T. B. Bhave</i>	
Implementation of Discrete Wavelet Transform with Decomposition and Synthesis Filter Banks for Robust Digital Image Watermarking.....	115
<i>B. L. Gunjal</i>	
Blind Source Separation Based Digital Image Adaptive Watermarking	126
<i>S. Jadhav, A. Bhalchandra</i>	
Digital Image Watermarking in DCT: A Novel Approach	132
<i>R. J. Shelke, S. S. Apte</i>	
Haar Wavelet Based Video Watermarking Algorithm for Raw Video	138
<i>D. S. Khadtare, M. Khadtare</i>	

A Robust Digital Watermarking Using DWT and DCT.....	144
<i>C. A. Bhavsar, S. N. Talbar</i>	
A Novel Technique of Steganography and Watermarking	149
<i>S. M. Walke, V. G. Puranik, J. G. Rana, R. S. Deshpande</i>	
Singular Value Decomposition Technique for Digital Image Watermarking.....	156
<i>N. Singh</i>	
Digital Image Watermarking Based on Wavelet Hard Thresholding	160
<i>A. S. Mangale, M. A. Joshi</i>	
Audio in Digital Image Watermarking Using Wavelet Domain	166
<i>S. Mangale, M. A. Joshi</i>	
Digital Color Image Watermarking in Wavelet Domain.....	171
<i>S. A. Mangale, M. A. Joshi</i>	
Image Text Detection Using Directional Edge Kernels.....	177
<i>A. S. Rumale, A. J. Patankar, M. H. Kolekar</i>	
Image Selective Smoothing and Denoising Using Modified Nonlinear Diffusion (MAD) Approach	182
<i>A. R. Upadhyay, R. K. Choudhary, S. N. Talbar</i>	
Face Description with Local Invariant Features: Application to Face Recognition.....	187
<i>S. A. Pardeshi, S. N. Talbar</i>	
Effective Segmentation Technique for 0.5 M Resolution World View-1 imagery	197
<i>A. Bapat, A. Bhalchandra</i>	
IRMOMENT: Image Indexing and Retrieval by Combining Moments	201
<i>S. N. Talbar, S. L. Varma</i>	
A Comparative Study of Histogram Comparison Statistics	205
<i>N. D. Naik, S. G. Patil, M. A. Joshi</i>	
Shape-Based Image Retrieval	209
<i>R. B. Shinde, M. B. Kokare</i>	
Towards Scalable Video Coding: A Wavelet Based Error Resilient Probabilistic Approach	213
<i>S. V. Kulkarni, A. Abhyankar</i>	
Segmentation of Meningioma MR Images Using SVM and RBF Algorithms	218
<i>R. Tippanwar, K. Zope, S. J. Malani, K. V. Rajan, A. D. Anuse</i>	
Development of an Automated System for Chromosome Classification	223
<i>M. Munot, A. M. Sapkal, M. A. Joshi</i>	
Use of Steerable Wavelets in Medical Image Registration	231
<i>S. S. Gahankari, P. Talwai, B. Parmar</i>	
Detection of Abnormalities in Brain Using ICA Neuroimaging Methods.....	235
<i>P. Warrier, R. S. Kawitkar</i>	
Heart Rate Analysis in Time Frequency Domain.....	239
<i>A. V. Thalange, S. O. Rajankar, S. R. Gengaje</i>	
Automatic Segmentation of Brain and Tumor Images Using Expectation Maximization Algorithm	244
<i>M. S. Kalas</i>	
Content Based Image Retrieval Using Different Color Maps	249
<i>K. M. Shah, V. K. Thakar</i>	
Texture Based Image Segmentation Using Self-Organization Map Neural Network	253
<i>M. Matey, S. Matey</i>	
One Layer Neural Network for Automatic Segmentation of Syllables of Devnagari.....	259
<i>A. Najan, N. Gadekar, S. P. Kawachale, J. S. Chitode, S. R. Gengaje</i>	
Proposed Novel Schemes Based on IPV4 for Data Steganography and Transmitting Over Internet	266
<i>S. Izadpanah, M. K. Haghghi, P. S. Dhabe</i>	
Hand Identification Using Fuzzy Feature Matching (FFM)	272
<i>M. Moorthi, M. Madhu, S. S. Kumar</i>	
Contextual Analysis and Classification of Syllables for Hindi Language	279
<i>S. P. Kawachale, S. R. Gengaje, J. S. Chitode</i>	
Review of Feature Extraction and Matching Techniques for CBIR	286
<i>V. H. Kondekar, S. N. Kore</i>	
Region Based Image Retrieval Systems	292
<i>A. Parashar</i>	
Interactive Retrieval Relevance Feedback Approach - A Tool for Content Based Image Retrieval (CBIR)	301
<i>M. P. Sardey, M. P. Dale</i>	
Predictive Model Construction Using Probabilistic Regression Tree	305
<i>V. Loni, V. Attar</i>	

Novel Face Recognition Using Neural Classifier	309
<i>P. Latha, L. Ganesan, N. Ramaraj</i>	
Face Detection Using Modified FDA-SVM Method.....	314
<i>T. H. Reddy, K. Karibasappa, A. Damodaram</i>	
Support Vector Machine Based Face Recognition.....	318
<i>N. Chauhan, P. Harshangi, K. George</i>	
Towards Designing a Spatio-Temporal Neural Network for Non-Modular High Content Pathological Screening	322
<i>R. Talware, A. Abhyankar</i>	
Performance Evaluation of Intra Prediction Modes in H.264/AVC.....	328
<i>G. P. Kapse, S. N. Talbar</i>	
Determining Fundamental Frequency of a Periodic Signal on an 8-Bit Platform	332
<i>A. Verma, B. M. Rao, N. L. Narappanawar</i>	
A Novel Efficient M-out-of-N Oblivious Transfer Scheme.....	336
<i>H. Vanishree, S. R. S. Iyengar</i>	
Suitability of FPGA for Computationally Intensive Image Processing Algorithms.....	340
<i>H. M. Rode, A. S. Chiddarwar, S. J. Darak</i>	
Elimination of Power Line Interference and Its Harmonics in ECG Signals Using Adaptive Volterra Filters.....	343
<i>S. Bhattacharya</i>	
Voice Controlled Mobile Dialing.....	347
<i>S. Mahajan, S. Pande, M. Soman, N. Balani, V. K. Kokate</i>	
A Novel Method of Speech Coding Using Transform Coding and Polynomial Approximation	351
<i>K. Anand, V. Srivastava, S. Bhattacharya</i>	
Speaker Segmentation.....	355
<i>S. Mahajan, V. B. Katekar, V. K. Kokate</i>	
Multi-Class Audio Classification Using K-Nearest Neighbour Classifier	359
<i>S. Mahajan, A. Chatlawar, V. K. Kokate</i>	
Author Index	