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Nota di contenuto	Chapter 1. Fingerprint Image Segmentation using Textural Features -- Chapter 2. Improved Feature Selection for Neighbor Embedding Super-Resolution using Zernike Moments -- Chapter 3. Target Recognition in Infrared Imagery using Convolutional Neural Network -- Chapter 4. Selected Context Dependent Prediction for Reversible Watermarking with Optimal Embedding -- Chapter 5. Cancelable Biometrics using Hadamard Transform and Friendly Random Projections -- Chapter 6. A Semi-Automated Method for Object Segmentation in Infant's Egocentric Video to Study Object Perception -- Chapter 7. A Novel Visual Secret Sharing Scheme using Affine Cipher and Image Interleaving -- Chapter 8. Comprehensive Representation and Efficient Extraction of Spatial Information for Human Activity Recognition from Video Data -- Chapter 9. Robust Pose Recognition using Deep Learning -- Chapter 10. A Robust Scheme for Extraction of Text Lines from Handwritten

Documents -- Chapter 11. Palmprint Recognition Based on Minutiae Quadruplets -- Chapter 12. Human Action Recognition for Depth Cameras via Dynamic Frame Warping -- Chapter 13. Reference Based Image Encoding -- Chapter 14. Improving Face Detection in Blurred Videos for Surveillance Applications -- Chapter 15. Support Vector Machine Based Extraction of Crime Information in Human Brain using ERP Image -- Chapter 16. View Invariant Motorcycle Detection for Helmet Wear Analysis in Intelligent Traffic Surveillance -- Chapter 17. Morphological Geodesic Active Contour Based Automatic Aorta Segmentation in Thoracic CT Images -- Chapter 18. Surveillance Video Synopsis while Preserving Object Motion Structure and Interaction -- Chapter 19. Face Expression Recognition using Histograms of Oriented Gradients with Reduced Features -- Chapter 20. Dicentric Chromosome Image Classification using Fourier Domain Based Shape Descriptors and Support Vector Machine -- Chapter 21. An Automated Ear Localization Technique Based on Modified Hausdorff Distance -- Chapter 22. Sclera Pattern Synthesis Based on Non-parametric Texture Synthesis Technique -- Chapter 23. Virtual 3-D Walkthrough for Intelligent Emergency Response -- Chapter 24. Spontaneous vs. Posed smiles – Can We Tell the Difference? -- Chapter 25. Handling Illumination Variation: A Challenge for Face Recognition -- Chapter 26. Bin Picking Using Manifold Learning -- Chapter 27. Motion Estimation From Image Sequences: A Fractional Order Total Variation Model -- Chapter 28. Script Identification in Natural Scene Images: A Dataset and Texture-Feature Based Performance Evaluation -- Chapter 29. Posture Recognition in HINE Exercises -- Chapter 30. Multi-Oriented Text Detection from Video using Sub-Pixel Mapping -- Chapter 31. Efficient Framework for Action Recognition using Reduced Fisher Vector Encoding -- Chapter 32. Detection Algorithm for Copy-Move Forgery Based on Circle Block -- Chapter 33. FPGA Implementation of GMM Algorithm for Background Subtractions in Video Sequences -- Chapter 34. Site Suitability Evaluation for Urban Development using Remote Sensing, GIS & Analytic Hierarchy Process (AHP) -- Chapter 35. A Hierarchical Shot Boundary Detection Algorithm using Global and Local Features -- Chapter 36. Analysis of Comparators for Binary Watermarks -- Chapter 37. On Sphering the High Resolution Satellite Image using Fixed Point Based ICA Approach -- Chapter 38. A Novel Fuzzy Based Satellite Image Enhancement -- Chapter 39. Differentiating Photographic and PRCG Images: Using Tampering Localization Features -- Chapter 40. A Novel Chaos Based Robust Watermarking Framework -- Chapter 41. Deep Gesture: Static Hand Gesture Recognition using CNN -- Chapter 42. A Redened Codebook Model for Dynamic Backgrounds -- Chapter 43. Reassigned Time Frequency Distribution Based Face Recognition -- Chapter 44. Image Registration of Medical Images using Ripplet Transform -- Chapter 45. 3D Local Transform Patterns: A New Feature Descriptor for Image Retrieval -- Chapter 46. Quaternion Circularly Semi-Orthogonal Moments for Invariant Image Recognition -- Chapter 47. Study of Zone-Based Feature for Online Handwritten Signature Recognition and Verification in Devanagari Script -- Chapter 48. Leaf Identification using Shape and Texture Features -- Chapter 49. Depth Image Super-Resolution: A Review and Wavelet Perspective -- Chapter 50. On-line Gesture Based User Authentication System Robust to Shoulder Surfing.

Sommario/riassunto

This edited volume contains technical contributions in the field of computer vision and image processing presented at the First International Conference on Computer Vision and Image Processing (CVIP 2016). The contributions are thematically divided based on their relation to operations at the lower, middle and higher levels of vision

systems, and their applications. The technical contributions in the areas of sensors, acquisition, visualization and enhancement are classified as related to low-level operations. They discuss various modern topics – reconfigurable image system architecture, Scheimpflug camera calibration, real-time autofocusing, climate visualization, tone mapping, super-resolution and image resizing. The technical contributions in the areas of segmentation and retrieval are classified as related to mid-level operations. They discuss some state-of-the-art techniques – non-rigid image registration, iterative image partitioning, egocentric object detection and video shot boundary detection. The technical contributions in the areas of classification and retrieval are categorized as related to high-level operations. They discuss some state-of-the-art approaches – extreme learning machines, and target, gesture and action recognition. A non-regularized state preserving extreme learning machine is presented for natural scene classification. An algorithm for human action recognition through dynamic frame warping based on depth cues is given. Target recognition in night vision through convolutional neural network is also presented. Use of convolutional neural network in detecting static hand gesture is also discussed. Finally, the technical contributions in the areas of surveillance, coding and data security, and biometrics and document processing are considered as applications of computer vision and image processing. They discuss some contemporary applications. A few of them are a system for tackling blind curves, a quick reaction target acquisition and tracking system, an algorithm to detect for copy-move forgery based on circle block, a novel visual secret sharing scheme using affine cipher and image interleaving, a finger knuckle print recognition system based on wavelet and Gabor filtering, and a palmprint recognition based on minutiae quadruplets.