

1. Record Nr.	UNINA9910483293903321
Titolo	Image Analysis and Processing — ICIAP 2015 : 18th International Conference, Genoa, Italy, September 7-11, 2015, Proceedings, Part II / / edited by Vittorio Murino, Enrico Puppo
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-23234-7
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XXVI, 737 p. 340 illus.)
Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 9280
Disciplina	621.367
Soggetti	Optical data processing Image Processing and Computer Vision
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- Organization -- Contents - Part II -- Contents - Part I -- Image Analysis -- Learning Balanced Trees for Large Scale Image Classification -- 1 Introduction -- 2 Related Work -- 3 Learning a Balanced Tree for Image Classification -- 3.1 Overview of Label Tree -- 3.2 The Proposed Approach -- 4 Experiments -- 4.1 Datasets -- 4.2 Experimental Setting -- 4.3 Evaluation Measurement -- 4.4 Experimental Results -- 5 Conclusion -- References -- Analysis of Compact Features for RGB-D Visual Search -- 1 Introduction -- 2 Visual Search Architecture -- 2.1 Image Description -- 2.2 Binary Hashing -- 2.3 Matching -- 3 Experimental Evaluation -- 3.1 Datasets -- 3.2 Results -- 4 Conclusion and Future Work -- References -- Hierarchical Image Segmentation Relying on a Likelihood Ratio Test -- 1 Introduction -- 2 A Method Inspired by Likelihood Ratio Test -- 2.1 Likelihood Ratio Test -- 2.2 Similarity Measure -- 2.3 The Proposed Method -- 3 Experimental Analysis -- 3.1 Compared Methods and Their Underlying Graphs -- 3.2 Databases -- 3.3 Quantitative Analysis -- 4 Conclusions and Further Works -- References -- Large Scale Specific Object Recognition by Using GIFTS Image Feature -- 1 Introduction -- 1.1 Related Work -- 2 GIFTS Image Local Feature and KD-Tree -- 2.1 GIFTS Image Feature -- 2.2 KD-Tree -- 3 Large Scale

Book Image Query System -- 4 Experimental Results and Considerations -- 4.1 Comparison with ORB -- 5 Conclusions and Future Work -- References -- On Spatiochromatic Features in Natural Images Statistics -- 1 Introduction -- 2 Previous Studies on Spatial and Chromatic Natural Color Image Statistics -- 2.1 Chromatic Redundancy in Natural Images -- 2.2 Spatio-chromatic Redundancy in Natural Images -- 3 Relationship Between Second Order Stationarity and the Decorrelated Spatiochromatic Features of Natural Images -- 3.1 The Gray-Level Case. 3.2 The Color Case -- 4 Validations on a Natural Image Database -- 4.1 $c_0(R,G,B)$ and Its Eigenvalues and Eigenvectors -- 4.2 The Exponential Decay of Spatiochromatic Covariance -- 5 Discussion and Perspectives -- References -- Real-Time Foreground Segmentation with Kinect Sensor -- 1 Introduction -- 2 Kinect -- 3 Previous Works -- 4 Foreground Segmentation -- 4.1 ToF Based Segmentation -- 4.2 Kinect Based Segmentation -- 5 Results -- 6 Conclusions -- References -- Hierarchical Image Representation Using Deep Network -- 1 Introduction -- 2 Related Work -- 3 Unsupervised Feature Extraction -- 3.1 Deep Network Architecture -- 3.2 Simulating K-Means in the Network -- 3.3 Hierarchical Bag-of-Words Representation -- 4 Performance Evaluation -- 5 Conclusion -- References -- Fast Image Classification with Reduced Multiclass Support Vector Machines -- 1 Introduction -- 2 Image Classification with Visual Descriptors -- 3 Reducing Multiclass Support Vector Machines -- 4 Experiments -- 5 Related Work on SVM Reduction -- 6 Conclusions and Future Work -- References -- A Gravitational Model for Plant Classification Using Adaxial Epidermis Texture -- 1 Introduction -- 2 A Gravitational System -- 3 Complexity Analysis -- 4 Proposed Feature Vector -- 5 Experiments and Results -- 6 Conclusion -- References -- Adaptive Background Modeling for Land and Water Composition Scenes -- 1 Introduction -- 2 Proposed Background Modeling Algorithm -- 2.1 Land and Water Area Separation -- 2.2 Background Learning Rate Calculation -- 2.3 Accounting for the Influence of Sunrise and Sunset -- 2.4 Background Updating -- 3 Experimental Results -- 3.1 Robustness to Changes in Luminance at Sunrise and Sunset -- 3.2 Robustness to Changes in Tidal Height -- 3.3 Quantitative Performance Evaluation on Real Data -- 4 Conclusions -- References. Enhancing Signal Discontinuities with Shearlets: An Application to Corner Detection -- 1 Introduction -- 2 A Review of the Shearlet Transform -- 3 Detecting Discontinuities with Shearlets -- 4 Corner Detection with Shearlets -- 5 Experimental Results -- 6 Discussion -- References -- Improved Human Gait Recognition -- 1 Introduction -- 2 Related Works -- 3 Methodology -- 3.1 Motivations -- 3.2 Gait Energy Image -- 3.3 Feature Selection Mask -- 3.4 Canonical Discriminant Analysis -- 4 Experiments -- 5 Conclusions -- References -- Human Area Refinement for Human Detection -- 1 Introduction -- 2 Related Work -- 3 Proposed Method -- 3.1 Basic Ideas -- 3.2 Coarse Foot Position Estimation -- 4 Experiments -- 4.1 Evaluation of Projection Transformation -- 4.2 Evaluation of Refined B-Boxes -- 4.3 Evaluation of Tracking Performance -- 5 Conclusions -- References -- Skeletonization Algorithm Using Discrete Contour Map -- 1 Introduction -- 2 Preliminaries and Notations -- 3 Discrete Contour Map -- 4 Skeletonization Algorithm -- 5 Experimental Results -- 6 Related Work -- 7 Conclusion -- References -- Superpixel and Entropy-Based Multi-atlas Fusion Framework for the Segmentation of X-ray Images -- 1 Introduction -- 2 Proposed Model -- 2.1 Data Set and Multi-atlas Creation -- 2.2 Image Pre-processing -- 2.3 Proposed Multi-atlas Fusion Procedure -- 3 Experimental Results -- 4

Conclusion -- References -- Wavelet-Like Lifting-Based Transform for Decomposing Images in Accordance with the Inter-prediction Principles of Video Coding -- 1 Introduction -- 2 Proposed Principle of Image Analysis-Synthesis -- 3 Adaptive Prediction Mechanisms -- 4 Experimental Evaluation of the HASTD -- 5 Conclusion -- References -- Real-Time Age Estimation from Face Imagery Using Fisher Vectors -- 1 Introduction -- 2 Fast Face Detection and Alignment -- 2.1 Features and Image Pre-processing. 2.2 Face Detection -- 2.3 Face Alignment -- 3 Face Representation -- 4 Large Scale Learning with SGD -- 5 Experimental Results -- 5.1 Timing -- 5.2 Accuracy -- 6 Conclusions -- References -- Bounded Non-Local Means for Fast and Effective Image Denoising -- 1 Introduction and Related Work -- 2 Weighting by a Bounding Function -- 2.1 Original NLM -- 2.2 Proposed Bounded NLM -- 3 Experimental Results -- 4 Concluding Remarks -- References -- i-Street: Detection, Identification, Augmentation of Street Plates in a Touristic Mobile Application -- 1 Introduction -- 2 i-Street Overview -- 3 Text in Scene Images -- 4 Plate Identification -- 5 Image Augmentation -- 6 Requirements and Criticalities -- 7 Lab Tests and Real Usage -- 8 Conclusions -- References -- Distortion Adaptive Descriptors: Extending Gradient-Based Descriptors to Wide Angle Images -- 1 Introduction -- 2 The Distorted Domain -- 2.1 Gradient Estimation of Distorted Images -- 3 Distortion Adaptive Descriptors -- 4 Experimental Settings -- 5 Results -- 6 Conclusion -- References -- Counting Turkish Coins with a Calibrated Camera -- 1 Introduction -- 2 The Proposed Coin Detection and Recognition Method -- 2.1 Bilateral Filtering -- 2.2 Circle Detection and Elimination -- 2.3 Diameter Computation and Coin Classification -- 3 Experimental Results -- 4 Conclusions -- References -- Design and Implementation of a Dynamic Adaptive Video Streaming System with a Buffer Aware Rate Selection Algorithm -- 1 Introduction -- 2 Background and Related Work -- 3 The Proposed Video Streaming System -- 3.1 Encoding Scheme -- 3.2 Dynamic Adaptive Video Streaming System -- 3.3 Throughput Estimation Mechanism -- 3.4 Buffer Aware Rate Selection Algorithm -- 4 Experimental Evaluation -- 5 Conclusion -- References -- Leveraging Mutual Information in Local Descriptions: From Local Binary Patterns to the Image. 1 Introduction -- 2 Local Binary Pattern and Constraint Propagation -- 3 The Directed Constraint Graph -- 4 The Inversion Algorithm -- 5 Results and Discussions -- 6 Conclusions -- References -- Dominant LBP Considering Pattern Type for Facial Image Representation -- 1 Introduction -- 2 The Local Binary Pattern (LBP) -- 2.1 A Brief Overview of LBP -- 2.2 The Angular Difference LBP (AD-LBP) -- 3 Dominant LBP Considering Pattern Type (LBP) -- 3.1 Related Works and Motivation -- 3.2 The Learning Phase -- 3.3 Feature Extracting Phase -- 4 Experiments and Results -- 4.1 Experiments Setting -- 4.2 Experimental Results -- 5 Discussion and Conclusion -- References -- Improving High Resolution Satellite Images Retrieval Using Color Component Features -- 1 Introduction -- 2 Multiscale Opponent Color Descriptors -- 2.1 Opponent Cross-Correlation -- 2.2 Color Features -- 2.3 Feature Extraction -- 3 Bag of Visual Words Model -- 3.1 Features Extraction -- 4 Results and Discussions -- 5 Conclusion -- References -- The QCRI Recognition System for Handwritten Arabic -- 1 Introduction -- 2 Text Line Image Normalization -- 2.1 Baseline Estimation -- 2.2 Slant Correction -- 2.3 Size Normalization -- 2.4 Pen Size Normalization -- 3 Feature Extraction -- 4 Training Procedure -- 5 Experiments -- 5.1 Data Description -- 5.2 Results -- 6 Conclusion -- References -- Optimized Parallel Model of Covariance Based Person

Detection -- 1 Introduction -- 2 Person Detection Based on Covariance Descriptor -- 2.1 Features Extraction -- 2.2 First and Second Order Tensors -- 2.3 Covariance Region -- 2.4 The Classifier -- 3 Parallelization Procedure -- 3.1 Kahn Process Networks -- 3.2 The Initial Parallel Model -- The Communication Workload. -- Computation Workload Analysis. -- 3.3 The Optimized Parallel Model -- 4 Conclusion -- References -- Face Recognition from Robust SIFT Matching.

1 Introduction.

Sommario/riassunto

The two-volume set LNCS 9279 and 9280 constitutes the refereed proceedings of the 18th International Conference on Image Analysis and Processing, ICIAP 2015, held in Genoa, Italy, in September 2015. The 129 papers presented were carefully reviewed and selected from 231 submissions. The papers are organized in the following seven topical sections: video analysis and understanding, multiview geometry and 3D computer vision, pattern recognition and machine learning, image analysis, detection and recognition, shape analysis and modeling, multimedia, and biomedical applications.
