

1. Record Nr.	UNISA996465701503316
Titolo	Visual Informatics: Sustaining Research and Innovations [[electronic resource] ] : Second International Visual Informatics Conference, IVIC 2011, Selangor, Malaysia, November 9-11, 2011, Proceedings, Part I // edited by Halimah Badioze Zaman, Peter Robinson, Maria Petrou, Patrick Olivier, Timothy K. Shih, Sergio Velastin, Ingela Nyström
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2011
ISBN	3-642-25191-9
Edizione	[1st ed. 2011.]
Descrizione fisica	1 online resource (XX, 371 p.)
Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 7066
Disciplina	621.3815422
Soggetti	Optical data processing Pattern recognition Computer graphics Artificial intelligence Algorithms User interfaces (Computer systems) Image Processing and Computer Vision Pattern Recognition Computer Graphics Artificial Intelligence Algorithm Analysis and Problem Complexity User Interfaces and Human Computer Interaction
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 -- Title page -- Preface -- Organization -- Table of Contents -- Keynotes -- Visualization and Haptics for Interactive Medical Image Analysis: Image Segmentation in Cranio-Maxillofacial Surgery Planning -- Introduction -- Segmentation Method -- Bone Segmentation -- Defining the Orbital Opening -- Deformable Model -- User Interface -- Visualization -- Haptics -- Implementation Details -- Experiment and Results -- Conclusions and Future Work -- References -- Evaluation of

Unsupervised Segmentation Algorithms for Silhouette Extraction in Human Action Video Sequences -- Introduction -- Comparison Schema -- Segmentation Algorithms and Objective Evaluation Metrics -- Comparison Results -- Implementation and Computational Issues -- Conclusions -- References -- Video Forgery and Motion Editing -- Computer Vision and Simulation -- Improved Incremental Orthogonal Centroid Algorithm for Visualising Pipeline Sensor Datasets -- Introduction -- Literature Review -- IOC Derivation and the Proposed (HPDR) Improvement -- The IOC Algorithm and the HPDR -- The Expected Likelihoods (EL) -- Weighted Average Expected Likelihoods (WAEL) -- High Performance Dimensionality Reduction Algorithm (HPDR) -- Analysing the HPDR Algorithm -- Procedures -- Results and Evaluation -- References -- 3D Visualization of Simple Natural Language Statement Using Semantic Description -- Introduction -- Related Works -- Implementation -- Logical Representations -- 3D Visualization -- Experimental Results -- Discussion -- Conclusion and Future Work -- References -- Character Recognition of License Plate Number Using Convolutional Neural Network -- Introduction -- Theory -- Methodology -- Preparing the Training and Test Data Set -- Developing a MATLAB Model -- The Proposed Architecture -- Optimizing the CNN Algorithm -- Results and Discussions -- Misclassification Rate -- Conclusion. References -- Simulation Strategy of Membrane Computing to Characterize the Structure and Non-deterministic Behavior of Biological Systems: A Case Study with Ligand-Receptor Network of Protein TGF- -- Introduction -- Case Study: Ligand-Receptor Network of TGF- -- Membrane Computing Model of Ligand-Receptor Network of TGF- -- Simulation of LRN System -- Results and Discussions -- Conclusions -- References -- Development of 3D Tawaf Simulation for Hajj Training Application Using Virtual Environment -- Introduction -- Previous Work -- Environment Modeling -- Architecture of System -- Creating Model for Haram Mosque and Kaabah -- Implementation and Testing -- Experimental Setup -- Implementation -- Result and Discussion -- Future Work -- Conclusions -- References -- A Grammar-Based Process Modeling and Simulation Methodology for Supply Chain Management -- Introduction -- Literature Review -- Model Description -- The Methodology -- The Workflow -- Grammar-Based Modeling in Supply Chain Process -- Modeling the Process -- Description of the Events and the Process -- Arena Model and Simulation Results -- Conclusion -- References -- A Parallel Coordinates Visualization for the Uncapacitated Examination Timetabling Problem -- Introduction -- Examination Timetabling -- Model of Examination Timetabling -- Hard Constraints and Soft Constraints -- Dataset -- Parallel Coordinates the Design -- Analyze the Problem -- Relationship to Parallel Coordinates -- Implementation -- Preprocessing -- During the Processing -- Post Processing -- Conclusion and Future Work -- References -- A Modified Edge-Based Region Growing Segmentation of Geometric Objects -- Introduction -- Integration of Region Growing and Edge Detection -- Data Collections -- Methodology -- Pre-processing -- Edge Detection -- Edge Region Detection -- Seeds Definition -- Morphological Operations. Results and Discussions -- Conclusion -- References -- Comparison on Performance of Radial Basis Function Neural Network and Discriminant Function in Classification of CSEM Data -- Introduction -- Radial Basis Function Network Model -- RBF Model Training -- Discriminant Function Analysis (DFA) -- Terminology and Derivations from a Confusion Matrix -- Methodology -- The Simulation Set-Up -- Data and Analysis Procedure -- Results and Discussion -- RBF Neural

Network -- Discriminant Analysis -- Conclusion -- References --  
Simulation for Laparoscopy Surgery with Haptic Element for Medical  
Students in HUKM: A Preliminary Analysis -- Introduction -- Literature  
Review -- Methodology -- Interview with Experts -- Observations --  
Findings -- Discussions -- Conclusion -- References -- Virtual Image  
Processing and Engineering -- Detection and Classification of  
Granulation Tissue in Chronic Ulcers -- Introduction -- Chronic Ulcers  
and Healing Assessment -- Hypothesis and Research Objective --  
Approach -- Colour Images of Chronic Ulcers -- Detection of  
Granulation Tissue -- Segmentation of Granulation Tissue -- Results  
and Analysis -- Detection of Granulation Tissue -- Segmentation of  
Granulation Tissue -- Validation of Results -- Conclusion --  
References -- New Color Image Histogram-Based Detectors --  
Introduction -- Proposed Color Histogram Based Interest Point  
Detectors -- Experiments -- Experiments on Image Matching --  
Experiments on Image Classification -- Conclusions -- References --  
Digital Training Tool Framework for Jawi Character Formation --  
Introduction -- Background of the Study -- Framework for Jawi Writing  
Training Tool -- Jawi Character Formations -- Practice Activities -- Jawi  
Character Recognition -- Conclusion -- References -- Empirical  
Performance Evaluation of Raster to Vector Conversion with Different  
Scanning Resolutions -- Introduction.

Image Data and Raster to Vector Conversions Methods -- Performance  
Evaluation -- Experimental Results and Discussions -- Conclusions and  
Future Work -- References -- Visualizing the Construction of  
Incremental Disorder Trie Itemset Data Structure (DOSTrieIT) for  
Frequent Pattern Tree (FP-Tree) -- Introduction -- Association Rules --  
Proposed Model -- DOSTrieIT Rudimentary -- DOSTrieIT Algorithm --  
Result and Discussion -- Conclusion -- References -- The Gradient of  
the Maximal Curvature Estimation for Crest Lines Extraction --  
Introduction -- Theoretical Background -- Methodology -- Experiment  
and Discussion -- Conclusion and Future Works -- References --  
AdaBoost-Based Approach for Detecting Lithiasis and Polyps in USG  
Images of the Gallbladder -- Introduction -- System Description --  
Analysed Data -- Boosting Method in Detecting Irregularities --  
Training Phase and Selected Experiment Results -- Input Image  
Filtering -- Summary and Further Research Directions -- References --  
Assessing Educators' Acceptance of Virtual Reality (VR) in the  
Classroom Using the Unified Theory of Acceptance and Use of  
Technology (UTAUT) -- Introduction -- Literature Review -- Educators'  
Acceptance of Technology -- Research Design -- Unified Theory of  
Acceptance and the use of technology (UTAUT) -- Research Hypotheses  
-- Research Methodology -- Sample -- Measures -- Reliability of the  
Instrument -- Results and Discussion -- Implications for Future  
Research -- Conclusion -- References -- A Fuzzy Similarity Based  
Image Segmentation Scheme Using Self-organizing Map with Iterative  
Region Merging -- Introduction -- Image Segmentation via Fuzzy  
Similarity Measure -- Segmentation Using Fuzzy Similarity with  
Kohonen Map -- Experimental Results and Discussion -- Conclusion --  
References.

Enhancing Learning Experience of Novice Surgeon with Virtual Training  
System for Jig and Fixture Usage -- Introduction -- Knee Replacement  
Surgery -- Virtual Training System for Newly Design Jig and Fixture  
Usage in Knee Replacement Surgery -- Discussion and Result --  
Conclusion -- References -- Improved Gait Recognition with Automatic  
Body Joint Identification -- Introduction -- Methodology -- Experiment  
-- Experimental Results and Discussion -- Conclusion -- References  
-- A Real-Time Vision-Based Framework for Human-Robot Interaction

-- Introduction -- Related Work -- Face Detection -- AdaBoost Algorithm -- Learning the Classifier Function -- Cascade Building -- Simulation Results -- Servo Motor -- MIABOT -- Conclusion -- References -- Automated Hemorrhage Slices Detection for CT Brain Images -- Introduction -- Proposed Method -- Preprocessing -- First Level Image Enhancement -- Intracranial Extraction -- Second Level Image Enhancement -- Detection Stage -- Midline Formation -- Histogram Feature Extraction and Dissimilarity Measure -- Support Vector Machine(SVM) Classification -- Experimental Results and Discussion -- Conclusion -- References -- CBIR for an Automated Solid Waste Bin Level Detection System Using GLCM -- Introduction -- Proposed System -- GLCM and Haralick's Texture Features -- Description of the Test Set -- Evaluation of Similarity Measurements -- Test Setup -- Performance Metrics -- Experimental Setup -- Conclusions -- References -- Image Enhancement of Underwater Habitat Using Color Correction Based on Histogram -- Introduction -- Underwater Imaging Problem Statement -- Related Works -- The Approach for the Underwater Image Enhancement -- Analysis and Result -- Conclusion and Future Direction -- References -- A New Application for Real-Time Shadow and Sun's Position in Virtual Environment -- Introduction -- Method -- Hard Shadow. Sky Modeling.

---

Sommario/riassunto

The two-volume set LNCS 7066 and LNCS 7067 constitutes the proceedings of the Second International Visual Informatics Conference, IVIC 2011, held in Selangor, Malaysia, during November 9-11, 2011. The 71 revised papers presented were carefully reviewed and selected for inclusion in these proceedings. They are organized in topical sections named computer vision and simulation; virtual image processing and engineering; visual computing; and visualisation and social computing. In addition the first volume contains two keynote speeches in full paper length, and one keynote abstract.

---