ICHICS'16

THE FIRST INTERNATIONAL CONFERENCE OF HIGH INNOVATION IN COMPUTER SCIENCE

ADVANCED PROGRAM

JUNE 01-03, 2016
KENITRA, IBN TOFAIL UNIVERSITY

IEEE Morocco Section

This booklet contains the advanced program of contributions presented during The First International Conference of High Innovation in Computer Science (ICHICS'16). The conference, held at Faculty of Sciences, Ibn Tofail University, Kenitra, Morocco, during June 01–03, 2016. The conference provided a setting for discussing recent developments in a wide variety of topics including image processing, artificial intelligence, wireless communications, data warehousing and mining , etc .

As organizers, we have many people to thank for their support in making the conference successful. The fruitful outcome of the conference was the result of a well-coordinated effort of the Program and Technical Committee members as well as the Advisory Committee. Special thanks to our Organizing Committee, who put immense effort into making the conference successful. We thank all the authors who submitted papers. It was a privilege as well as a great responsibility to oversee the reviewing of their papers.

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Conference General Chair

Prof Youssef FAKHRI

Keynote Speakers Abstracts

Keynote 1: Robust watermarking for print-scan attack : Application to improve the security of official documents

Prof. Rachid Harba,
University of Orleans, France

Abstract:

Invisible watermarking for identity (ID) images printed on plastic card support is a challenging problem that interests the industrial world. In the study presented in ICHICS 2016, we developed a watermarking algorithm robust to various attacks existing in this case. These attacks are mainly related to the print/scan process on the plastic support (called print/scan attacks) and to the degradations that an ID card encounters along its lifetime.

The watermarking scheme that was developed operates in the Fourier domain as this transform has invariance properties against global geometrical modifications during print/scan. The chosen baseline method is that of Poljicak et al. To improve its robustness, two other approaches were also considered. The first one, a preventive approach, consists of pre-processing the host vector before embedding the mark by reducing the variance of the support vector of the mark. Indeed, it was experimentally shown that reducing the variance increased the robustness. This experimental finding was theoretically demonstrated. The second one, a curative approach, comprises two counterattacks to correct the blur and the color variations. Deblurring was performed using an adapted Wiener filter which was more efficient compared to blind deconvolution or unsharp filters.

Keynote Speakers Abstracts

Keynote 2: Bio-inspired Approaches for Engineering Adaptive Systems

Prof. Mohamed Bakhouya,
International University of Rabat, Morocco

Abstract:

Adaptive systems are composed of different heterogeneous parts or entities that interact and perform actions favoring the emergence of global desired behavior. In this type of systems entities might join or leave without disturbing the collective, and the system should self-organize and continue performing its goal. Furthermore, entities must self-evolve and self-improve by learning from their interactions with the environment. However, the main challenge for engineering these systems is to design and develop distributed and adaptive algorithms that allow entities to select the required strategy/action according to the current state of the system and environment's changes. In this talk, existing work related to the development of adaptive systems and approaches will be presented. We will also highlight how features from natural and biological systems could be exploited for engineering adaptive approaches.

Keynote Speakers Abstracts

Keynote 3: Multidimensional Characterization of Porous Media: Application to the Bone Tissue

Prof. Rachid Jennane,
University of Orleans, France
I3MTO Laboratory

Abstract:

Characterization of a 3D porous media using image processing is a challenging and interesting task that can be achieved statistically (model based) or deterministically (segmentation, classification, etc.). This presentation concerns the characterization of multidimensional tissues or porous media such as the bone tissue. The presentation will focus on the use of stochastic models such as the fractional Brownian motion to characterize such tissues from 2D projections or even from extracted 1D signals.

Tools based on the skeleton to describe the geometry of a complex porous media will be also presented.

The presentation will also cover an introduction to approaches based on finite elements to access virtually the rigidity of porous media under mechanical compressions.

Keynote Speakers Abstracts

Keynote 4: Statistical Analysis and Simulations of Functional Measures in Medical Studies

Prof. Chafik Samir,
University of Clermont Auvergne, France
CNRS-LIMOS

Abstract:

Statistical shape analysis plays an important role in various medical imaging applications. In particular, such methods provide tools for registering, deforming, comparing, averaging, and modeling anatomical shapes. In this talk, we focus on a recent method for statistical shape analysis of elastic parametrized data (surfaces, images, signals) for diseases characterization and to simulation of realistic samples.

Recent advances in medical imaging offer increasingly detailed information on typical anatomical structures. However, there is a lack of validation techniques for automatic image processing strategies, especially for multimodal images, i.e. coming from two different types of imaging equipment. In many medical applications, real data can only be extracted manually by an expert, and then used to validate image/signal processing algorithms. Indeed, scarcity of data for evaluation results in restricted studies.

We present new statistical frameworks to generate realistic simulated data that can be used as ground truth when dealing with deformability of observations (e.g. cells). Standard methods to assess an accurate diagnosis use multiple modalities. However, some limitations due to non-localized pertinent information cannot be directly avoided. An interesting solution is to statistically analyze shapes of real clinical data and provide enough random or simulated samples to validate registration step; registration of different modalities is key for fusing complementary information for diagnostic purposes.

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Conference Agenda

Sessions	Tracks and Topics
I, III, V,VII, IX (Room: A)	Audio, Vision and medical applicationsimage, and video analysis, modeling, processing and transformation Pattern recognition, Computer vision and medical application.
II, IV, VI, VIII (Room: B)	Wireless network algorithms and protocols, Mobile software architectures, systems, applications, and platforms Intelligent network applications Performance evaluation and modeling Network and operating system support for multimedia.
X (Room: B)	NLP and applications, text mining, Text classification, Application of NLP technology, Machine translation.

Conference Agenda

	Wednesday : June 01, 2016	
08h00 -09h00	Registration	
09h00-09h30	Opening Ceremony	
09h30-10h00	Break	
10h00-11h00	Keynote 1 (Room: A)	
11h00-13h00	**Session I (Room: A)** **Chair : EL BACHIR AMEUR** *An Improved Region Growing based on Bilateral Symmetry Information for MRI Brain Tumors Segmentation* **Mohamed Alji and Mounir Ait Kerroum .** *Recognition of handwritten Arabic character-inspired by its nature* **Youssef Boulid, Abdelghani Souhar and Mohamed Youssfi Elkettani** *High capacity and imperceptibility image steganography method based on Haar DWT* **Youssef Taouil, El Bachir Ameur, Moulay Taib Belghiti, Abdelouahid El Harraj and Abdelghani Souhar** *Breast masses detection and classification in digital mammography* ***Sanae* Berraho, Mounir Ait Kerroum and Fakhri Youssef** *New Scheme Of Classifier Ensemble Selection Based on MRMR Algorithm and Diversity Measures: Application on Medical Data Classification* **Soraya Cheriguene, NabihaAzizi and Nadir Farah**	**Session II (Room: B)** **Chair : FAKHRI YOUSSEF** *Mobile Applications Development Based on Model Driven Architecture Approach* **Benouda Hanane, Mostafa Azizi, Redouane Essbai and Mimoun Moussaoui** *Analysis Of SIP Authentication and key agreement Protocols Based On Elliptic Curve Cryptography* **Mourade Azrour, Mohammed Ouanan and Youssef Farhaoui** *A Radio Resource Management blueprint Based on Algorithm on Demand Scheme in Wireless Software Defined networking* **Hachim Fall, Ouadoudi Zytoune and Mohamed Yahyai** *Towards the integration of prediction by clustering in OLAP data cubes* **Asma Lamani, Brahim Erraha, Malika Elkyal and Abdallah Sair** *QoS Analysis of Manets Routing Protocol in WSN* **Younes Hamzaoui, Mohamed Amnai and Youssef Fakhri**
13h00-15h00	Lunch	

Conference Agenda

15h00-16h00	**Keynote 2 (Room: A)**	
16h00-16h30	**Posters Session I / Break**	
16h30-18h30	**Session III (Room: A)** **Chair : AIT KERROUM MOUNIR** *Towards circular traffic signs detection and recognition* **Samira El Margae, Mounir Ait Kerroum and Fakhri Youssef** *Nonlinear Manifold Embedding and Clustering with Application to Image Retrieval in Large Databases* **Samir Khoualed and Thomas Deregnaucourt** *Still Image Compression Using Curvelets and Logarithmic Scalar Quantization Technique (Draft)* **Zine-Eddine Baarir and Oussama Kadri** *New Data Hiding Schemes Based On Interpolation Methods* **Amine Benhfid, Youssef Taouil, El Bachir Ameur and Abdelghani Souhar** *Comparative study of feature subset selection methods combined with different classifiers for micro arraygene expression data analysis: Application to Leukemia cancer classification* **Haddou Bouazza Sara**	**Session IV (Room: B)** Chair : **OUADOUDI ZYTOUNE** *A New Methodology for Reverse Engineering of UML Behavioral* **Abdeslam Jakimi, Chafik Baidada and El Mahi Bouziane** *Dc/Fault Analyses In 14-Bus network system of Smart Grid Using Artificial Neural Network* **Loughmane Cheikh Ahmedou, Ould.Ahmedou Mohamed and Semma El Alami** *FPGA Based Real-time Data Stream Processing in WSNs : an overview* **Ilham Amezzane, Youssef Fakhri, Mohammed El Aroussi and Mohamed Bakhouya** *A new information security risk management and audit framework based on multi agent systems and expert systems* **Sophia Faris** *Distributed Testing of Cloud Computing Applications* **Fatima-Zahra Moutai, Salma Azzouzi and My El Hassan Charaf**

Conference Agenda

	Thursday : June 02, 2016	
08h00 -9h00	Registration	
09h00-10h00	Keynote 3 (Room: A)	
10h00-10h30	Posters Session II / Break	
10h30-12h30	**Session V (Room: A)** **Chair : ABDELGHANI SOUHAR** *Hyperspectral Band Selection by Divergence Distance based on Gaussian Mixture Model and Bayes Information Criterion* **Mohammed Lahlimi and Mounir Ait Kerroum** *Machine learning for 3D objects Labeling* **Omar Herouane, Lahcen Moumoun and Taoufiq Gadi** *A Corner Detection Method Using Electrostatic Forces* **Brahim Bouda and Lhoussaine Masmoudi** *Content MRI brain image retrieval using Angular radial transform and SVM* **Abderrahim Khatabi, Amal Tmiri and Ahmed Serhir** *Image Segmentation by Evolutionary Region Rrowing* **El Allaoui Ahmad, Merzougui Mohamed and Jamal Mirhisse**	**Session VI (Room: B)** **Chair: JAAFAR ABOUCHABAKA** *Improving the Delivery Rate of Data with : DTN Routing Hierarchical Topology (DRHT)* **Abdellaoui Alaoui El Arbi, Agoujil Said and Hajar Moha** *Virtual Machines Purchasing strategies* **Nour-Eddine Alouane, Jaafar Abouchabaka and Najat Rafalia** *Impact of Cooperative Black Hole Attack Based on AODV routing protocol in WSN* **Akourmis Sana, Fakhri Youssef and Rahmani Moulay Driss** *Improve QoS in OLSR Based on FUZZY LOGIC* **Moulay Hicham Hanin, Youssef Fakhri and Mohamed Amnai** *Analyze the implementation of exploration algorithms* **Rafat Alhanani, Jaafar Abouchabaka and Najat Rafalia**
12h30-14h00	Lunch	

Conference Agenda

14h00-15h00	**Keynote 4 (Room: A)**	
15h00-15h30	**Posters Session III / Break**	
15h30-17h30	**Session VII (Room: A)** **Chair : ABDELOUAHID EL HARRAJ** *Design and Application of Vehicle Tracking System in CCTV Camera Video using an Optical Correlation based Active Contour approach* **Elhoussaine Ouabida, Abdelaziz Essadike and Abdenbi Bouzid** *Data Security with Image Steganography Method Based on K-means Clustering* **Ismail Kich, El Bachir Ameur, A. Souhar and A. El Harraj** *Wavelet-Based Foveated Image Quality Measurement Integrating Psychovisual Properties* **Mohammed Nahid, Abdennaceur Baghdad and Elmkaddem Kheddioui** *Improved Medical Image Classification using Mutual Information Based Features Selection and Transductive Classification Scheme* **Zemmal Nawel, Nabiha Azizi, Mokhtar Sellami and Djamel Zenakhra** *On the use of all-at-once optimization technique for image restoration quality improvement* **Fouad Boudjenouia, Rachid Jennane, Karim Abed-Meraim and Aladine Chetouani**	**Session VIII (Room: B)** **Chair : RAFALIA NAJAT** *On the Choice of Security Parameters for Elliptic Curves Cryptosystems* **Taoufik Serraj, Ismaili Moulay Chrif and Abdelmalek Azizi** *The state of the art in elliptic curve cryptography* **Mouloua El Mahdi and El Kettani Mohamed DafirEch-Cherif** *A Description Logics Based Approach for Building Multi-Viewpoints Ontologies* **Meriem Djezzar and Mounir Hemam** *A survey of Mobility Models for Wireless Sensor Networks* **Saloua Outazgui and Youssef Fakhri** *Wireless Body Area Networks : A Survey* **Nada Belamine and Ouadoudi Zytoune**

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	Friday: June 03, 2016	
08h00 -9h00	Registration	
09h00-11h00	**Session IX (Room: A)** **Chair : ABDESLAM EL MOUDDEN** *Mining Traffic Accident from big Data : The case study of Morocco* **Addi Ait-Mlouk, Agouti Tarik and Gharnati Fatima** *High-performance Concrete Compressive Strength Prediction based Weighted Support Vector Machines* **Mustapha Rguig and Mohamed El Aroussi** *Extreme Learning Machines for Hand written Character Recognition* **Bouchra El Qacimy, Mounir Ait Kerroum and Ahmed Hammouch** *Adaptive processing of catadioptric images using a Riemannian metric* **Mirhisse Jamal, Nasri M'Barek and El Allaoui Ahmed** *An Edge Detection Method Using Electrostatic Forces* **Brahim Bouda and Lhoussaine Masmoudi**	**Session X (Room: B)** **Chair : SIHAM BOULAKNADEL** *Towards a Multilingual Aligned Parallel Corpus* **Imad Zeroual and Abdelhak Lakhouaja** *A Simple Approach to Unknown Word Processing in Amazighe Morphological Analysis* **Fatima Zahra Nejme, Siham Boulaknadel and Driss Aboutajdine** *The State Of The Art In Recogniton Of Handwritten Amazighs Characters* **Rida Chahed, Mounir Ait Kerroum and Siham Boulaknadel** *Building virtual worlds for Amazighe game based learning* **Yassine Tazouti, Siham Boulaknadel and Prof. Youssef Fakhri** *Evaluation of Features Extraction and Classification Techniques for Offline Hand written Tifinagh Recognition* **Rabi Mouhcine, Amrouch Mustapha, Mahani Zouhir and Mammass Driss**
11h00-11h30	Posters Session IV / Break	
11h30-12h00	Closing Ceremony	
12h00-14h00	Lunch	

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Posters Session I	Chair: LAASIRI JALAL
Wednesday : June 01, 2016 16h00-16h30	*State of the Art of: The fundamental concepts of Big Data* **Ilham Bouabib, Rafalia Najat and Jaafar Abouchabaka** *On a new algorithm of indexation within the framework of Big Data* **Mohamedou Cheikh Tourad and Abdelmounaïm Abdali** *Moroccan License Plate recognition using a hybrid method and license plate features* **Fatimazahra Taki, Younes Cheddad and Abdelbaki Elbelrhiti Elalaoui** *A Brief Survey of Extractive Arabic Text Summarization Approaches* **Samira Lagrini, Nabiha Azizi and Mohammed Redjimi**

Posters Session II	Chair : TOUIL HICHAM
Thursday : June 02, 2016 10h00-10h30	*Simulation and Analysis of AODV DSDV and GPSR in VANET* **Moulay Lahcen Hasnaoui, Meriem Houmer and Abdeslam Elfergougui** *A Design Requirements Framework for Mobile Learning Systems* **Aziz Abdel Karim and Faddoul Khokhi** *Human capital : the key of succes knowledge management system* **Mouna Rabhi and Youssef Fakhri** *A Hardware-Software Partitioning and Scheduling Approch for Dynamically Reconfigurable Systems* **Yahyaoui Khadidja and Mohamed Bouchoicha**

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Posters Session III	Chair: BRAHIM BOUDA
Thursday : June 02, 2016 15h00-15h30	*Elaboration of a ludic learning system* **Najib Chetita, Siham Boulaknadel and Youssef Fakhri** *Datamining serving the detection of fraud (Example of taxevasion)* **Imane Bouazza, Abdelouahid El Harraj, Farid Ameur and El Bachir Ameur** *Toward a scenario generator for serious games for language learning* **Mhamed Akhyad, Youssef Fakhri and Siham Boulaknadel** *Multi-methods data mining Multi-agent system* **Abdelali Khatib**

Posters Session IV	Chair : AMNAI MOHAMED
Friday : June 03, 2016 11h00-11h30	*A comparative study and the use of ontologies for solving structural and semantic heterogeneity: survey* **Siham Chahboune and Abdelmounaim Abdali** *Meta-Heuristic Methods for Vehicle Routing Problem* **Abdoun Otman , Alijou Myriem and Bergam Amal** *Capacity Analysis of MIMO Systems using Shannon's law and Water filling Algorithm* **Fatima Zahra Hassani Alaoui and Jamal Elabbadi** *Ontological Evaluation of SLA Contract based on MDE for Conceptual Modeling* **Adil Maarouf, Abderrahim Marzouk and Abdelkrim Haqiq**