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1st International Conference on Business Intelligence (CBI'14)

ABSTRACTS

April 29-30, 2014, FST Beni Mellal, Morocco

CBI'14

OFFICIEL PROGRAM
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ABSTRACTS

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Welcome of the Organization Committee

After the great success of the third edition of SITACAM organized at the Faculty of Science, Beni Mellal 2013 (SITACAM'13) and the Conference of young computer scientists (CJCI'13) who had gathered more than 100 participants of different nationalities, the organization committee organizes the first edition of the international conference in Business Intelligence (CBI'14) on April 29-30, 2014 in the FST, Beni Mellal, under the theme:

Actuality of the Business Intelligence

This scientific event is part of this framework, to bring together researchers to present and discuss their approaches, their achievements and results in the field of Business Intelligence.

This is an opportunity for various researchers to promote and to present an overview of advances in the Business Intelligence field.

Our thanks go to all the organizations that have supported the organization of this event.

Finally, we honor the Honorary Committee, the Organizing Committee and the Scientific Committee for their help and dedication.

Organization Committee

Welcome of the Scientific Committee

The Scientific Committee is proud to present these acts, which we hope, be interested by the international scientific community in technology information processing, telecommunications and business intelligence.

We received more than sixty articles. These items-have-been sent to members of the program committee for rigorous evaluation. The topics of accepted papers include Pattern Recognition, software engineering, data mining, data warehousing, telecommunications, and signal & image processing.

We sincerely thank all the members of the Scientific Committee for their excellent work evaluation.

Our thanks to all members of the organizing committee and sponsors who contributed to the success of these events.

Scientific Committee

Official Program	
Tuesday 29 April	
08h30-09h15	Opening and Registration
09h15-10h00	Welcoming Remarks by : - M. Pr Bouchaib MERNARI, President of Sultan Moulay Slimane University, BM - M. Pr Ahmed Zeghal, Dean of the Faculty of Science and Techniques, BM - M. President of the Moroccan of The Business Intelligence Association, BM
10h00-10h50	Coffee Break + Posters session I
10h50-11h10	Plenary Session : Genetic algorithms / Relational-Object
	Session I : Image Processing & Datamining (Prof. Daoui)
11h10-11h30	R.EL AYACHI: Recognition of Tifinagh characters using Braille code
11h30-11h50	T.HAJJI: Character Recognition by Frequency Analysis and Artificial Neural Networks
11h50-12h10	M. GOUSKIR: Brain Extraction from Resonance Magnetic Images using Riemannian tensor
12h10-12h30	K.TAIFI: Suppression Pectoral Muscle and Artifacts on Digital Mammograms based on Morphological Watersheds
	Session II : Signal Processing and Telecommunications (Prof. Boumezzough)
12h35-12h55	M.BOUTALLINE: Blind Identification and Separation of CDMA Signals using Levenvberg-Marquardt Algorithm-Tensorial Decomposition
12h55-13h15	Y.CHAWKI: Estimation of 3D frequencies by a New High-Resolution Spectral Analysis method
13h15-13h35	M. ADOCH: Synthetic Study of steganographic algorithms
	Session III : Networks, Cloud Computing & Database (Prof. Bouikhalene)
13h40-14h00	J. TALBI: Towards Agility and Efficiency in Organizations by Combining Cloud Computing and Business Intelligence
14h00-14h20	A.AZOUGAGHE: Homomorphic Encryption application in cloud computing environment
14h20-14h40	B.HSINA: Web services at the service of e-learning
15h00	Lunch
Wednesday 30 April	
09h00-12h00	Workshops
	Session IV: Signal Processing and Telecommunications (Prof. Minaoui)
09h00-9h20	A.SALHI: Detection and recognition of road signs, using the polygonal approximation and neural networks
09h20-9h40	M.BINIZ: Managing semantic web evolution in the organization (SWO)
09h40-10h00	I.BADI: Approach of the Reproducing Kernel Hilbert Spaces for identifying the parameters of a wireless telecommunication channel
10h00-10h20	M.ERRITALI: A survey on IPv6 Security
10h20-12h00	Coffee Break + Posters session II
12h	Official Closing

Suppression Pectoral Muscle and Artifacts on Digital Mammograms based on Morphological Watersheds

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Abstract: **The segmentation of mammograms plays a major role in isolating areas which can be subject to tumour. The identification of these zones is generally done in three stages: pectoral muscle segmentation, hard density zone detection and texture analysis of regions of interest. Then the aim of this paper is the segmentation of the pectoral muscle on a mammography, for facilitate the work of experts analyzing mammograms, and in particular by comparison of several pictures. The developed methodology is based on Morphological Watersheds. These algorithms have been tested on 50 digital mammography images. The comparisons for all the proposed image suppression pectoral muscle techniques were carried out to find out the best to detect masses. We have tested the proposed system on the MIAS database.**

Keywords: ***Mammography, Morphological Watersheds; pectoral muscle. Web services at the service of e-learning platforms***

Web services at the service of e-learning

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Abstract: **In this article, we defined the steps to create a web service based on an example that relates to the field of e-Learning. In addition, it cited the components and the basic functionality of a web service. In determining the concepts on which is based the web services namely SOAP and WSDL (a description in XML Schema web service) and UDDI, these three elements constitute the life cycle of use of a web service architecture in a distributed client / server.**

Keywords: ***Web services,e-learning, XML, SOAP, WSDL, UDDI, JAXWS.***

Research on an Efficient Method of License Plate Recognition

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Abstract: **In the application of intelligent transportation system (ITS), license plate (LP) image pre-processing and location is one of the most crucial step. In order to improve the image quality and protrude the outstanding information that we need, which is favourable to the subsequent processing including character segmentation and positioning, character recognition, this paper presents an improved license plate location and segmentation method, First of all, we convert the image into a gray-scale using histogram equalization, then the noise is reduced through Gaussian filter. We use an improved Canny edge detection method with detection boundary area to extract the perfect edge, the image then is sharpened by using dilation and erosion to enhance the edge information, with normalisation process using light intensity and construct adjustment functions, the image become ready for segmentation and recognition. Experimental results demonstrated the great robustness and efficiency of our method.**

Keywords: ***license plate location, image enhancement, edge extraction, segmentation***

Automatic localization of the optic disc in retina colour images

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Abstract: **Digital photography of the retina is widely used for screening of patients suffering from sight threatening diseases such as Diabetic retinopathy and Glaucoma. Locating and segmenting the optic disc are key pre-processing steps for extracting retinal features. An efficient detection of optic disc in color retinal images is the fundamental step in an automated retinal image analysis system. This paper proposes a novel method to automatically detect the position of the Optic Disc (OD) in digital retinal fundus images. The method starts by normalizing luminosity and contrast throughout the image using illumination equalization, edge detection using the Canny operators and detection of circles using the Hough transform is employed to locate the approximate center of the optic disc. The proposed method is evaluated on publicly available databases such as DIARETDB1, DRIVE, and STARE. The success rate was 100, 95.7 and 90.41%, respectively.**

Keywords: ***segmentation, retinal fundus images, Hough transforms, diabetic retinopathy, detection***

Towards Agility and Efficiency in Organizations by Combining Cloud Computing and Business Intelligence

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Abstract: **The present economic crisis experienced by all the states of the world orients more and more the information technology industry towards efficiency. Organizations are striving to become intelligent and achieve competition advantages through the use of Business Intelligence (BI) solutions. Cloud Computing is one of the instruments that can bring about the technology requirements of evolving BI solutions. In this paper, we present the benefits and the impact of cloud computing on business intelligence. And, we propose a cloud BI solution by identifying the strategy of integration and implementation. Also, we compare the opportunity of using a traditional BI and cloud BI solutions through assessing the Return of Investment (ROI) indicator.**

Keywords: ***Business Intelligence, Cloud Computing, Benefit, Impact, ROI.***

Quality control of Date Fruit based on Artificial Vision

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Abstract : **In the present study, a method for sorting and grading Date fruit by using vision artificial, the method is based camera CCD and lighting system and acquisition of deferent sort of date fruit Images. The system comprises a conveying unit, illumination and capturing unit, and sorting unit. Physical and mechanical features were extracted from the samples provided, and the detection algorithm designed accordingly.**

Keywords: ***Artificial vision, segmentation, geometric features, classification***

Sequential patterns mining by GSP and MFS algorithms

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***Abstract**:* **At first, the problem of mining sequential patterns may seem similar to that of mining association rules. However, this approximation is very fragile due to a key that is unique to the sequential pattern mining. This notion allows distinguishing the order of appearance and combining certain elements. Indeed, if association rules apply to data such itemsets (and allow the extraction of intra-transaction rules), the sequential pattern applies to data type sequences (and thus allows the extraction of inter - transaction rules). We propose in this article to make a step forward in understanding the behaviour of two algorithms Generalized Sequence Pattern (GSP) & Mining Frequent Sequence (MFS) and explaining their operation. Moreover we propose a comparison between these algorithms.**

Keywords: ***GSP, MFS, sequential pattern, sequence, itemset***

Classification algorithms: ID3, C4.5, C5.0 & CART

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Abstract: **Data mining is the useful tool to discovering the knowledge from large data. Different methods & algorithms are available in data mining. Classification is most common method used for finding the mine rule from the large database. Decision tree method generally used for the Classification, because it is the simple hierarchical structure for the user understanding & decision making. Various data mining algorithms available for classification based on Artificial Neural Network, Nearest Neighbour Rule & Bayes classifiers but decision tree mining is simple one. ID3 and C4.5 algorithms have been introduced by J.R Quinlan which produces reasonable decision trees. The objective of this paper is to present these algorithms. At first we present the classical algorithm ID3, then we will discuss in more detail C4.5 this one is a natural extension of the ID3 algorithm. And we will make a comparison between these two algorithms and others algorithms such as C5.0 and CART.**

Keywords: ***Data mining, classification algorithm, decision tree, ID3 algorithm, C4.5 algorithm, C5.0, CART***

Recursive Elimination Algorithm

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Abstract: **Recursive elimination is an algorithm for finding frequent item sets, which is strongly inspired by the FP-growth algorithm. It does its work without prefix trees or any other complicated data structures, processing the transactions directly. Its main strength is not its speed (although it is not slow, even outperforms Apriori and Eclat on some data sets), but the simplicity of its structure. Basically all the work is done in one simple recursive function, which can be written with relatively few lines of code.**

Keywords: ***Recursive Elimination Algorithm, FP-Growth, Apriori***

Character Recognition by Frequency Analysis and Artificial Neural Networks

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Abstract: **This paper describes an artificial neural network (ANN)-based system that uses a word frequency database for optical character recognition (OCR) of Amazigh words. In this research, we describe an approach based on statistical calculation and artificial neural. This method exploits the power of the semantic analysis of the language to guess all the characters in order to solve the problem of similarity of characters and reduce computing time. The proposed approach increases the recognition rate and optimizes the response time.**

Keywords*: Artificial Neural Networks, Database, Modelling, Probability and Statistics, Natural Language Processing, Image Processing.*

Digital Movements Images Restoring by Artificial Neural Networks

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Abstract: **The objective of this work is to make the presentation of a new method that uses the power of artificial neural networks to the restoration and correction of errors in digital images in the case of a bad capturing of the image also be called the movement's images. In this work, we will prove the effectiveness of artificial neural networks as a good solution for this problem. We will also present in this work, a new study to choose the structure of artificial neural networks most efficient and personalized learning algorithm to teach the neural network the recovery mechanism of such images.**

Keywords*: Artificial Neural Networks, Image Processing Learning Algorithms.*

Using Attack Graphs for Security Risk Analysis

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Abstract: **Cyber security of information systems is still often provided through a variety of tools e.g. using systems intrusion detection, antivirus.... With the aim of ensuring the security of an information system ensuring the availability, integrity and confidentiality of the data, a preliminary study called risk analysis system and its environment is required. Therefore, it is important to study the attack scenarios through system vulnerabilities to protect by extracting these scenarios in the form of a graph that containing elementary actions from an initial state to a given objective. As a solution, we propose to build an attack graph by including all attack paths. Thus, we evaluate the risk of the system via the computation of other parameters for enhanced security analysis.**

Keywords: ***Information System, Security, Risk, Vulnerability, Attack Graph.***

Discrimination of fuel oils in gas stations by using Dataminig algorithms

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Abstract: **The quality of the environment is gaining more and more interest of both the scientific community and politics. The adulteration of the conventional fuel oil (CFO) by the tampered fuel oil (TFO) is known as an illegal economic practice. So, Moroccan company, as well as industrial, service delivery or scientific research needs fast, accurate and less expensive method that ensures quality control of fuel oil. The first chemometric results show that such coupling means could be a useful tool to solve the problem of relatively slow and laborious chemical analyses. Moreover, sustainable development that Moroccan companies are increasingly integrating requires optimization in terms of time, analysis and especially by adopting the principles of green chemistry.**

Keywords: ***fuel oil, quality control, FT-MIRS, Chemometrics, algorithms***

Chemometrics applied to the contents of calcium and dissolved oxygen in drinking water

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Abstract: **The quality of the drinking water is gaining more and more interest of both the scientific community and politics. In fact, it concerns directly, health and security of the populations in the world. Moroccan public offices and scientific researchers need fast, accurate and less expensive method that ensures quality control of drinking water. The first results show that the vast majority of drinking water in the Moroccan region of Tadla Azilal meet the standards which are: calcium: 100mg/L and dissolved oxygen: 7mg/L. The vast majority of drinking water in the Moroccan region of Tadla Azilal meets the standards which are: calcium and the dissolved oxygen. Piedmont areas of Beni Mellal Atlas Mountain (dir Beni Mellal) would have higher contents of calcium in relation to contents in both areas of the mountain and the plain. The dissolved oxygen content in the water source would be higher compared to the case of the well. The statistical treatment of results using algorithms such as Neural Networks, PCA, K-means Cluster and other illustrates the results obtained by methods of chemical analyzes**

Keywords: ***K-means, PCA, neural networks, water quality***

Estimation of 3D frequencies by a New High-Resolution Spectral Analysis method

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Abstract: **The present work is situated within the framework of the spectral analysis applied to the multidimensional signals, in particular the high-resolution methods known by their performances and their precision such as the 3D-ESPRIT method (Estimation of Signal Parameters via Rotational Invariance Techniques), the MEMP method (Matrix Enhancement and Matrix Pencil) and the ACMP method (Algebraically Coupled Matrix Pencil). In these methods, it generally poses the problem of the formation of the pairs or of the triplets of frequencies for the 2D or the 3D signals respectively. In this work, we are going**

to propose a new method of high-resolution spectral analysis type 3D-ESPRIT. The proposed method allows us to overcome the problem of the multiple triplets of the 3D-ESPRIT method. This new technique will be tested on a sum of 3D complex exponential (3DSCE) embedded in a white Gaussian additive noise with various values of SNR.

***Keywords*: Spectral Analysis, High Resolution, 3D-ESPRIT, MEMP, ACMP, Autocorrelation matrix.**

Learning by Neighbourhood graphs (Gabriel graph)

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***Abstract*: Graphs neighborhoods are tools from computational geometry that have been repeatedly applied in the field of machine learning. By definition, a neighborhood graph associated with a set Ω of n individuals described by vector X = {x1… xi… xp} is a graph whose vertices are different individuals w1....wp component of the Ω set. In this study we will present neighborhoods graphs (Gabriel graph) and show how, they will be used in the context of supervised learning.**

***Keywords*: Voronoi, Delaunay, Gabriel graph, neighborhood graph**

A Frequent Pattern Growth Method for Mining Association Rules

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***Abstract*: Frequent pattern Growth algorithm is one of famous method used to find association relationships among any large data sets and all frequent patterns, there is many algorithms for frequent itemsets mining, but the FP-Growth with its FP-Tree structure considered as an efficient algorithm to generating frequent item sets. In this paper we are going to present an illustrative example of this algorithm and its implementation on oriented object language, and compare the results with Apriori to demonstrate that FP-Growth has a running time performance more than any other algorithms in association rules.**

***Keywords*: Frequent itemsets mining, FP-Growth, FP-Tree, Association rules.**

Extracting associations rules by Apriori & AprioriTid Algorithms

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***Abstract*: The Data Mining refers to extract or mine knowledge from huge volume of data. Association Rule mining is the technique for knowledge discovery. It is a well-known method for discovering correlations between variables in large databases. We detail in this paper Apriori and AprioriTid algorithms that remain two reference algorithms in data mining for extracting associations rules.**

***Keywords*: Data Mining, Association Rule, Apriori, AprioriTid.**

A New Method for Indexing and Searching Color Image by Content

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Abstract: **The problem we consider that is about finding similar images in a large database. The most efficient algorithms use local image descriptors. In this paper, we propose a new algorithm based on the intersection of 2D histograms in HSV space. The proposed histogram is based not only on the intensity of pixels but also on a 3x3 window. This approach overcomes the drawback of the classical histogram which ignores the spatial distribution of pixels in the image. By comparing its performances to several methods of the state of the art, we will show that the developed method presents several advantages. The proposed histogram is faster, reduce memory consuming and it doesn't require learning. For validation of our results, this algorithm will be applied to search similar images in a database of over than 1000 images. Finally, we show that the proposed algorithm is efficient than the method of searching by the intersection of classical histograms in HSV and RGB spaces.**

Keywords: ***near duplicate images retrieval, local descriptors, indexing, similarity distance, intersection histograms.***

Segmentation of 3D objects using 2D view by applying the active contour

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Abstract: **Recently, 2D mechanisms have emerged as an important boost for the recovery of 3D objects based on the contents in many real worlds. In this article we will use the active contour method for segmenting images containing 3D objects and 2D by making a comparative study of the results between the two and see clearly the good performance of the active contour on the 3D versus 2D objects.**

Keywords: component; object 3D; active contour; image segmentation

Supervised learning by K-Nearest Neighbour (KNN) and IB3 Algorithms

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Abstract: **Several data mining techniques have been developed and used in data mining projects which include classification, clustering, association rules, prediction, and sequential patterns. Data mining applications are used in various areas such as sales, marketing, banking, finance, health care, insurance and medicine. There are various research domains in data mining namely web mining, text mining, image mining, sequence mining, privacy preserving data mining, etc. In this article, we describe one essential step of data mining process is the classification, we analysed one of the most straightforward instance-based learning algorithms which is the nearest neighbour algorithm(k-NN), then we study the most powerful one among the others IBL algorithms called IB3 algorithm.**

Keywords: ***Data mining, Classification K-NN, Instance-Based learning, IBL, IB3***

Design and Development of a Data Extraction and Decision-making system (Application in the University System)

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Abstract: **Missions given to the university impose not only be listening to the expressed needs by its socio-economic environment, but also to anticipate these needs by acting as "university business." Also business intelligence becomes a very important thing for a control system like that of university. So we have to consider the design of a data warehouse in an educational setting integrating user modeling and especially the student actor and facilitate the design of tools to aid decision for this system, a full scheme for the modeling and design thereof is presented in this paper.**

Keywords: ***Modeling, university Actor, Data Warehouse, Relational Database, Multidimensional, Data extraction Information Systems, Strategic Information System.***

Homomorphic Encryption application in cloud computing environment

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Abstract : **Cloud computing is the most envisioned paradigm shift in the computing world. In this context, it becomes necessary to properly protect the data from different risks and dangers that are born with cloud computing. This paper treat the homomorphic encryption and its applications in cloud environment, especially electronic voting**

Keywords: ***Homomorphic encryption; cloud computing; electronic voting***

Frequent Closed Itemsets Mining CLOSET & CHARM

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Abstract: **It has been well recognized that the frequent itemsets mining help the decision maker to extract hidden predictive information from a large databases. However this extraction can provide an undesirable large set of frequent itemsets and association rules, which complicate the task for the final users. An alternative solution consists to extract frequent closed itemsets and their corresponding rules. In this paper we will present two algorithms which adopting this approach, CHARM and CLOSET.**

Keywords: ***frequent closed itemsets, CHARM, CLOSE***

Decision trees: CART Algorithm

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Abstract: **The classification can serve to separate between objects of different classes. In this paper we will present the notion of classification by using the decision trees and specially the CART algorithm "Classification and regression trees". Also we will give an illustrative example of using the CART algorithm in a classification problem. Finally we will compare between CART and other classification algorithms by indicating the advantages and the disadvantages of each one.**

Keywords: ***Data mining, Decision tree, CART, ID3, C4.5, C5.0, Gini Index, growing-set, pruning-set.***

Self-adaptive security for mobiles agents using *the sensitivity of the services requested by mobile agent and the host's trust degree*

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Abstract: **Mobile agent technology attracts great interests because of its salient merits. However, it also brings significant security concerns, among which the security problems between a mobile agent and its platforms are of primary importance. While protecting a platform (platform or host security) can benefit from the security measures in a traditional client-server system, protecting a mobile agent (mobile-agent or code security) has not been met in traditional client-server systems and is a new area emerging with mobile agent technology. The protection of mobile agents is considered as one of the greatest challenges of security, because the platform of execution has access to all the components of the mobile agent. In this paper, we present a new architecture paradigm of mobile agents, which allows the separation of the implementation tasks of the agent and its security mechanisms. Our approach is based on using two strategies of adaptation to adapt the mobile agent security at runtime, depending on the sensitivity of the services required to perform the duties of the agent and the degree of confidence of the visited platforms. The first is a static adaptation performed by the MSAS (the Management System of Agents Security). The second is a reflexive structural dynamic adaptation performed by the mobile agent itself. These two adaptations take into account the dynamic security requirements in systems based on mobile agent.**

Keywords: ***Mobile Agent, Software components, Static adaptation, Dynamic adaptation, Security, Trusted platform, Cryptography***

Mining Frequent Closed Itemsets algorithms: Close and Closet

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Abstract: **In this paper, we present two algorithms close and closet used to identify closed frequent itemsets for determining the difference existing between these two algorithms and then we will make a comparative study with others algorithm based on the performance of all those algorithms.**

Keywords: ***close, closet, closed frequents itemsets, frequents itemsets***

Recognition of Tifinagh characters using Braille code

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Abstract: **The Braille code is a tool that gives the possibility to read and write to the blind and visually impaired people of different nationalities. So, the objective of this work is to provide a Tifinaghe characters recognition system witch convert the Tifinaghe characters on Braille code. This system has several phases: pre-processing, extraction of attributes, classification and Braille result.**

Keywords: ***Braille code, recognition, Tifinaghe characters, Zernike and Legendre moments, neural networks.***

Detection of tumors in MRI images

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Abstract: **In this article, we will proceed to the detection and classification of tumours in magnetic resonance images using morphological operations such as segmentation by watershed x water, erosion and dilation before applying these operations we will first by pre-treatment which will be based on the conversion of the image greyscale, noise removal by median filter, filtering the image by the high-pass filter and obtain an enhanced image. As a result we will talk of a hybrid approach regarding the combination of line of water sharing and the operations mains mathematical morphology (erosion and dilation). Finally, after the application of our tools already mentioned, the results will be interpreted.**

Keywords: ***Tumour detection, magnetic resonance imaging, mathematical morphology, segmentation water line, erosion, dilation, median filter, high pass filter.***

Automatic Detection and Classification of Micro calcifications in Mammogram

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Abstract: **The appearance of micro calcifications in mammograms is one of the early signs of breast cancer. Therefore, early detection of micro calcifications (MCCs) in mammograms can be useful for the diagnosis of cancer. In this paper, an automatic approach was proposed to support radiologists to detect MCCs. Our approach consists of two phases: detection phase followed by a decision stage. The detection phase is guided, firstly, by a pre-processing which facilitates the following image segmentation. The second phase is to use the detection results to extract their features and classify them. The approach proposed is based on mathematical morphology, and it is tested on mammography images based "MIAS" data, and satisfactory results are obtained.**

Keywords: ***breast cancer, detection of micro calcifications, region of interest, mathematical morphology, MIAS.***

Contribution to the automatic detection of citrus disease

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Abstract: **Good agricultural production in Morocco, environmentally "Precision Agriculture" remains a major challenge for the scientific disciplines of agronomy. This challenge is defined by the development of techniques for the reduction of plant protection products (pesticides, herbicides, insecticides, fungicides,) used in cultures. In this context, several studies, using techniques of image processing and artificial intelligence, have developed. All these works that implement methods for the recognition of complex objects using shape recognition in scene analysis and knowledge-based systems, taking place in a broader IPM project cultures and the environment. In this research we focus on the detection of three citrus diseases namely Melanose, the Greasy spot and Scab using a descriptor based on an analysis of the texture and matrix co-occurrence, and a classification neural network.**

Keywords: ***agricultural production, plant protection, matrix co-occurrence, classification, neural network***

The Digital Spacework for Sultan Moulay Silmane University

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Abstract: **This work concerns the installation of the digital Workspace of the Sultan Moulay Slimane University. The installation of the digital Workspace consists in deploying beside it, a service of Single Sign-On (SSO) with the CAS Server (Central Authentication Service) to facilitate the management of the multiple data of accounts (logins, passwords…), a directory service LDAP in order to centralize information of the users, and the Esup-Portal platform which is a software of Web portal developed with the Java language, distributed according to the terms of license BSD (Berkeley Software Distribution).**

Keywords: ***ENT, Ldap, CAS, Central Authentification Service, Esup-uPortal, connecteur Moodle, connecteur Apogee, USM***

Realization of a system of human resources management

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Abstract: **In this article we describe a process of scanning the human resources department of the university, the modeling approach and the conceptual core of the application while describing the steps of the implementation of the application.**

Keywords: ***Resources management, modeling***

First Access to the Sultan Moulay Slimane University

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Abstract : **The objective of this project is to create a web portal designed to help new students on the first access to the Sultan Moulay Slimane University (Practical Information, Pre-Registration, Placement Test, Terms of use, e-services ... etc.) while creating a secure space protecting both the data from the institutions of the University and student information's. This portal is accessible from any computer connected to the Internet inside and outside the campus.**

Keywords: ***database, e-services, pre-registration***

Human Detection at a Distance in Video Sequence

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Abstract: **This work focuses on the design of a system for human detection at a distance in video sequence. The detection of a person is able to automatically indicate whether or not filmed scene contains one or more persons and their positions. Extraction and classification of silhouettes based on the descriptor GIST, Zernike moments, neural network and SVM.**

Keywords: ***Background subtraction; Gist; Zernike; Neural network; SVM.***

Classification of color images

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- *Abstract:* **This paper proposes a new descriptor based on color texture hybridization, this recent description combines color and texture descriptors both a statistical and other frequency, this approach to the goal of improving the performance of our classification system, This system runs in two phase or the extraction phase we extracted information by the proposed descriptor and classification phase, before this phase we step selection of relevant descriptors to reduce our descriptor and select the most relevant attributes.**
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Keywords: ***Extraction, description color, texture, classification.***

Comparative study of routing protocols in vehicular ad hoc networks

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Abstract: **In this paper, we present some solutions for the problem of routing in vehicular ad hoc networks. This topic has shown over the last ten years his interest in the field of computer research. We present the theoretical aspects of routing protocols and illustrate some examples of different network topologies with the results obtained.**

Keywords*: *Vehicular ad hoc networks; routing protocols

Automatic exudates detection in diabetic retinopathy images

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Abstract: **Diabetic Retinopathy (DR) refers to the presence of typical retinal micro vascular lesions in persons with diabetics. When the disease is at the early state, a prompt diagnosis may help in preventing irreversible damages to the diabetic eye. If the exudates are closer to macula, then the situation is critical. Early detection can potentially reduce the risk of blindness. This paper proposes a comparative tool for the early detection of Diabetic Retinopathy using edge detection, algorithm k-means and Fuzzy C-means in segmentation phase, invariant moments (Hu and Affine) and descriptor GIST in extraction phase. In the recognition phase, neural network is adopted. All tests are applied on database DIARETDB1.**

Keywords*: *diabetic retinopathy, k-means, fuzzy c-means, recognition.

Best prediction algorithm binarization of document images texts

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Abstract *:* **Binarization is an important part of reading text documents automatically through Optical Character Recognition. Inded historical documents suffer from different types of degradation such as faint character, bleed-through and large baground ink stains which result in binarisation errors, and it is still an open area of research. In recent years enjoying great advances in the precision of algorithms bainarisation historical text documents which is considered as a very important step for the recognition of document images. In this paper we present a performance of methods after extensive testing on the DIBCO and the HDIBCO series datasets which include a variety of degaraded handwritten document images. A combination of these algorithms is proposed that aims in an improved overall performance.**

Keywords:* *DIBCO, binarization, degradation, historical documents , recognition, performance.

Graph of relative neighbors

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Abstract: **In the domain of data mining, diverse algorithms have been realized. These allow the resolution of complicated situations to adopt adequate solutions and efficient decisions. However, the aim of this article is to present the Graph of Relative Neighbors which will be compared to the Graph of Gabriel**

Keywords:* *datamining, graph of relative's neighbors, graph Gabriel, learning.

Oblique Classifier 1 (OC1)

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***Abstract**:* **Decision tree induction algorithms are widely used in knowledge discovery and data mining, especially in scenarios where model comprehensibility is desired. A variation of the traditional univariate approach is the so-called oblique decision tree, which allows multivariate tests in its non-terminal nodes. Oblique decision trees can model decision boundaries that are oblique to the attribute axes, whereas univariate trees can only perform axis-parallel splits. The majority of the oblique and univariate decision tree induction algorithms perform a top-down strategy for growing the tree, relying on an impurity-based measure for splitting nodes. In this paper, we propose a novel bottom-up algorithm for inducing oblique trees. It does not require an impurity-measure for dividing nodes, since we know a priori the data resulting from each split. For generating the splitting hyper planes, our algorithm implements a support vector machine solution, and a clustering algorithm is used for generating the initial leaves. We compare this algorithm to traditional univariate and oblique decision tree algorithms, C4.5, CART, OC1 and FT, as well as to a standard SVM implementation, using real gene expression benchmark data. Experimental results show the effectiveness of the proposed approach in several cases.**

***Keywords:** oblique decision trees; bottom-up induction; clustering; data mining*

Printed Arabic names of Moroccan towns and villages classification using density weight and zigzag sequence method

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***Abstract**:* **In this paper we present a new method to classify the printed names of Moroccan towns and villages. This method based on two principles , the first called density weight aims to reduce the size of the matrix representing the name of the Moroccan town or village to a matrix of 12 rows and 12 columns , this principle considers the matrix representing the name in block of 8 rows and 8 columns , and each block is considered as group of sub matrix with two rows and two columns in each matrix (2x2) to be replaced by 1 if an element equal 1 else be replaced by 0 than the same principle was repeated until the matrix (8x8) to be replaced by 1 or 0. The extraction vector was obtained by browsing the matrix element (12x12) in imposed order by a special sequence called zigzag sequence. This technique is tested on 6000 with a training data of 16,000 examples of 200 classes of Moroccan towns and villages using the method of k nearest consensus. The recognition rate is 100 % with the number of nearest class k = 9.**

***Keywords:** printed Arabic names, Moroccan towns and villages, density weight ,zigzag sequence, k nearest consensus*

Frequent Itemset Mining by Eclat, and SSDM algorithms

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***Abstract:** **Frequent sets lie at the basis of many Data Mining algorithms. As a result, hundreds of algorithms have been proposed in order to solve the frequent set mining problem. in this paper we will describe two algorithms "Eclat" and "SSDM"**

***Keywords:** datamining, Eclat, SSDM algorithms, frequent set mining*

Comparing of tow 2D Face Recognition Methods: Facial Surface Analysis by Contours and New Descriptor Zernike Moment

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Abstract: **In this article, we have made a face recognition system whose features are extracted using two methods, the first is based on the analysis of facial surfaces represented by contour and the second is based on the invariant Zernike moments. Then a comparative study between these two algorithms is performed. And in the classification phase we used the multilayer neural networks. The images used in our experiments are from the database ORL (Olivetti Research Laboratory), designed by AT & T Laboratories Cambridge University in England, which contains 400 images of 40 people, including 10 images for each individual.**

Keywords: ***face recognition, invariant Zernike moments, Surfaces facial, facial curves, geodesic path, multilayer neural networks, ORL database***

Optimization with genetic algorithms Maximization of functions of two variables

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***Abstract*:** **The majority of large optimization problems do not lead to optimal solutions within a reasonable time. Different methods exist to find near optimal solutions in an acceptable time. These approximate methods are the genetic algorithms (GA); they are a meta-heuristics imitating the evolution of a population of individuals in a natural environment based on the two principles of natural selection and natural reproduction. In this paper, we show the performance of these algorithms by implementing a genetic algorithm to optimize a function of two variables regardless of the nature of the function to be optimized**

Keywords: ***Optimization, meta-heuristics, genetic algorithms, , genetic operators, optimization of functions.***

Managing Semantic Web evolution in the Organization (SWO)

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Abstract: **As ontology, development becomes a more ubiquitous and collaborative process, ontology versioning and evolution becomes an important area of ontology research. The many similarities between database-schema evolution and ontology evolution will allow us to build on the extensive research in schema evolution. However, there are also important differences between database schemas and ontology. The differences stem from different usage paradigms, the presence of explicit semantics and different knowledge models. Many problems that existed only in theory in database research come to the forefront as practical problems in ontology evolution. These differences have important implications for the development of ontology-evolution frameworks: The traditional distinction between versioning and evolution is not applicable to ontology. Compatibility between versions must be considered along several dimensions. The set of change operations for ontology is different. We must develop automatic techniques for finding similarities and differences between versions, although, there are no sophisticated methods available yet to support all the aspects of change management for ontology, it surely is an active research field. Most of the work has been done under the titles of Ontology Evolution and Versioning.**

Keywords: ***Ontology, semantic web, XML, RDF, RDFS, OWL, OWL 2, Evolution, Schema***

Brain Extraction from Resonance Magnetic Images using Riemannian tensor

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Abstract: **We present in this study the application of Riemannian geometry for processing non-Euclidean image data. We consider image as residing on a Riemannian manifold, and we develop new method for brain edge detection and brain extraction. Automating this process is challenging due to the high diversity in appearance brain tissue, among different patients and different sequences.**
The main contribution of this study is that we employ an edge-based anisotropic diffusion tensor for the segmentation task by integrating both image edge geometry and Riemannian manifold (geodesic, metric tensor) to regularize contour convergence and extract complex anatomical structures. We validate the accuracy of the segmentation results on simulated brain MRI scans of both single T1-weighted and multiple T1/T2/PD-weighted sequences. We show that using a Riemannian manifolds to medical image analysis improve the efficient results to brain extraction, brain tumor segmentation and classification.

Keywords: ***Riemannian manifolds, Riemannian Tensor, Segmentation, Non-Euclidean data, Brain Extraction.***

Blind Identification and Separation of CDMA Signals using Levenvberg-Marquardt Algorithm-Tensorial Decomposition

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Abstract: **In this paper we describe the Levenvberg-Marquardt algorithm for blind identification and equalization CDMA signals received by an antenna array in communication channels. The synthesis explains the digital separation and equalization of signals after propagation through multipath generating intersymbol interference (ISI). Exploiting discrete data transmitted and the three diversities induced at the reception, the problem can be composed by the Block Component Decomposition (BCD) of a tensor of order 3 which is a new tensor decomposition generaliz-ing the PARAFAC (PARAllel FACtor) decomposition. We optimize the BCD decomposition by Levenvberg-Marquardt method gives encouraging results com-pared to classical alternating least squares algorithm (ALS). In the part of the equalization, we use the minimum mean square error (MMSE) equalizer to perform this method. The simulation results gives by LM algorithm are accepted.**

Keywords: ***Blind identification and equalization, communication channel, Levenvberg-Marquardt, tensor decomposition.***

Handwritten digits recognition using the k-Nearest t neighbors and hidden Markov model

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***Abstract**:* **This work deals with a recognition system of handwritten digits extracted to the MNIST standard database (latins digits), this system is composed by three main phases: the preprocessing of digits followed by the extraction of primitives with the zoning method in order to convert each image into a vector number which is nothing other than an information extracted from this digit just to differentiate the others. Finally, our recognition system will end with a classification phase by the two methods: the K-nearest neighbors (K-NN) and Hidden Markov Model (HMM). This work has achieved a recognition rate of approximately 85% of success.**

Keywords*: *Handwritten digits, k-Nearest neighbors, Hidden Markov Model, MNIST standard database

Contribution clustering algorithms

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Abstract: **The problem of data explosion causes a large mass of data unusable by conventional analytical methods, and then to process those data in real time, the data mining remains an effective solution by extracting useful information from large databases. In this paper we describe two major clustering algorithms: classical and fuzzy k-means and dynamic clustering algorithms. It is observed that in most cases, the K classes found by this method are better, although the classification algorithms by partitioning suffer from the problem of the single representative. These algorithms are implemented using R programmining language.**

***Keywords:** datamining, clustering, k-means, fuzzy k-means, dynamic clustering.*

Algorithm of KDCI (K Direct Count & Intersect)

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Abstract: **In this paper, we propose the algorithm of KDCI which introduces a novel optimization of the well-known algorithm Apriori. This optimization is based on pattern counting inference that relies on the concept of key patterns. The support of frequent non-key patterns can be inferred from frequent key patterns without accessing the database. Multiple heuristics strategies are adopted within KDCI, so that the algorithm is able to adapt its behavior not only to the features of the specific computing platform, but also to the features of the dataset being processed. The experimental results showed that KDCI show that our approach is very valuable for dense and sparse data that represent an important part of existing databases.**

***Keywords:** datamining , KDCI, knowledge discovery in databases, frequent patterns, association rules.*

Unsupervised classification by CEM algorithm

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Abstract: **Classification as big part of datamining problems has always attracted a lot of attention for various applications. Also many methods are brought forward to tackle these problems. There are methods which based on the deterministic methods such as k-means and other based on statistical methods such as EM, CEM, and SEM. In this paper we used a statistical modeling method, then applying the Gaussian Mixture Model (GMM), to the classification clusters based on the Maximum Likelihood (ML) estimation using the Expectation-Maximization (EM) algorithm.**

Keywords: ***classification, k-means, Gaussian mixture model, maximum likelihood, EM.***

Data mining techniques for customer relationship management

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Abstract: **Clustering is an essential aspect of the marketing analysis; it is to recognize groups of customers with high degree of similarity. A good segmentation results in the formation of differentiated them segments with a specific competition identified significant enough to justify a differentiation offers. It therefore controls both the supply strategy and commercial approach to clients. DM techniques are adopted in different areas such as marketing, market segmentation, market demand prediction and fraud in the financial and insurance industry, the telecommunication industry and the tourism industry etc., which have been widely applied to achieve effective CRM so as to help the industrial managers take marketing decisions. The work presented in this paper is to apply the data mining technique called k -means; to classify customers based transactions, which are recorded in the database with 233 transactions, 130 customers. This classification will allow the company to know its customers well and therefore take marketing decisions for every customer , so this classification helps traders to seek ways to retain the lost customers, retain loyal customers and increase the willingness to purchase the means clients.**

Keywords: ***Customer segmentation, Clustering, Customer relationship management, Data mining, K-means***

Speech processing and security: application to Tamazight enchained digits

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Abstract: **The evolution of humane-machines dialogue involved the apparition of a new security management technique. For this reason, there are a lot of systems that uses voice stamps and signal processing. In this work, we have treated a security system that consists on password validation devoted to Tamazight dialect and speaker verification. In this context, an automatic speech recognition system for Tamazight enchained digits is established. We have based on construction rules of these digits to minimize a training database and to avoid the overlap between different numbers to increase a recognition rate.**

Keywords: ***HMM (Hidden Markov Model), ASRS (Automatic Speech Recognition System), Tamazight, security systems.***

Synthetic Study of steganographic algorithms

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Abstract: **Steganography is the art of hiding information (file) in a computer agent (image, audio, video, etc). Several algorithms are used to bury a message in these agents and thereby making secret. Our study purpose is to compare some algorithms in terms of resistance to attack by spies. Although steganography is used in the industry today (the case of watermarking: hiding the copyright of a work to protect the rights of the author), we propose a hybrid method that uses both cryptographic and steganographic systems to hide and protect information during transmission.**

Keywords: ***Steganography, cryptography, DES***

Development of a Simulation Tool for Microsatellite Thermal Control

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Abstract: **During functioning in space, a microsatellite must dissipate the heat it generates and receives through a subsystem called: thermal control. The purpose of this subsystem is to maintain all the elements of the microsatellite system within their temperature limits for all mission phases. For evaluation of microsatellite thermal system, it is necessary to obtain the temperature distribution of all components housed in the platform of the microsatellite, using simulation and test. In this paper, temperature distribution of a microsatellite in low earth orbit is studied in order to verify that employment of passive thermal control system helps to keep the microsatellite components in a desired or allowed temperature limit. This work consists of calculation of external thermal boundary conditions at all operational orbital conditions, and all mission duration. Then solutions of non-linear energy equation for microsatellite components are applied.**

Keywords: ***simulation, thermal control, low earth orbit, microsatellite, space environment.***

Descriptive Study of Evolution and Standardization of Mobile Telephony

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Abstract: **Today we have to deal with several types of local wireless networks and mobile networks. These two names are often used to mean the same thing when it comes to different terms. The scope of wireless networks is low and does not allow large displacements. However, mobile networks offer more scope consistent and allow for use at large displacements with a certain speed. Our study shows the different generations of mobile telephony (1G, 2G, 3G, 4G). This will help to flatten the differences and similarities between them.**

Keywords: ***mobile networks, telecommunication, generation.***

Eastern printed Arabic noisy numerals recognition

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Abstract: **In this paper we compare the performance between the performances of two mathematic methods used in the feature extraction: the Krawtchouk invariant moments (KIM) and Zernike (ZIM) moments, and between two methods used in the learning-classification of images which are: the neural method Kohonen networks(KNs) that is characterized by a unsupervised learning and the statistic method the support vectors machines (SVMs) characterized by a supervised learning on the other hand in the recognition of printed Eastern Arabic numerals translated and rotated or resized and noisy.**
Our recognition system contains the following phases: The pre-processing, the feature extraction then the learning and classification phase.

Keywords: **Printed Arabic numerals, noise, thresholding technique, Krawtchouk (KIM) and Zernike (ZIM) invariant moments, Kohonen networks (KNs), support vectors machine (SVMs).**

Supervised identication of a transmission channel parameters: neural networks approach (model Levenberg-Marquard) algorithm and Recursive Least Squares

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Abstract: **The neural networks have become tools persistent research and frequently addressed by the topics of current research. This paper describes two supervised approaches algorithms for multicarrier code division multiple access (MC-CDMA) system equalization. In order to identify the impulse response of two practical selective frequency fading channels called broadband radio access network (BRAN A and BRAN E) normalized for MC-CDMA system, we have used Levenberg-Marquardt method to build our algorithm, and the algorithm of Recursive least squares (RLS). For that, we have focused on the experimental channels to develop our algorithms able to simulate the measured data with high accuracy; we did also comparative studies between the two approaches. We use the zero forcing and the minimum mean square error equalizers to perform our algorithms. The simulation results demonstrate the effectiveness of the studied algorithms.**

Keywords: ***Neural network, MC-CDMA, Recursive least squares algorithm, Levenberg-Marquardt method.***

Approach of the Reproducing Kernel Hilbert Spaces for identifying the parameters of a wireless telecommunication channel

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Abstract: **The problem of identifying the parameters of a FIR channel has become a research topic frequently addressed by the digital channel by researchers in the field of signal processing. In this work, we will apply then positive-definite kernel on a Hilbert space using a Gaussian kernel, in order to identify parameters of transmission channel. Kernel functions are suitable tools for identification data. Kernel functions are suitable tools for the identification data. We first examine the basic functions based on a positive-definite kernel; The modeling of the transmission channel is undoubtedly a milestone in the design of any warless telecommunication system. n the other way, we had applied the approach of Positive definite kernel on a Hilbert space for a supervised identification channel, We apply this approach to identify the parameters of a channel impulsion FIR in the case without noise.**

***Keywords**: FIR channel, kernel functions, Hebert spaces, wireless telecommunication channel.*

Images Compression by Haar wavelet

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***Abstract*: Recently, analysis and information processing techniques are multiplied. Raw data are presented less and replaced with more preferred formats in terms of space and time consummation. We mention MP3 in the field of sound and JPEG in the field of image. So in this context, the object of our work is the compression of image in order to reduce the size of image storage and transport. The method adopted is based on HAAR wavelet with two levels for image compression. Two filters are used: one high pass filter and another low-pass filter, which allows obtaining satisfactory results.**

***Keywords**: Haar wavelet, compression, low pass filter, high pass filter.*

Some Algorithms for Large Hidden Markov Models

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***Abstract*: The Hidden Markov Model (HMM) has become increasingly popular in the last several years because it is used in a wide range of applications. There are some inherent limitations of this type of statistical model. The major limitation of HMM is large hidden state space, which limits their practical purview. The objective of this work is to reduce the task of solving some classical algorithms (Forward, Backward, Baum-Welch) by review of their theoretical aspects, offering faster improved algorithms based on the decomposition technique which represent a general approach to solving a problem by breaking it up into smaller ones and solving each of the smaller ones separately.**

***Keywords**: Hidden Markov Model, Forward, Backward, Baum Welch, large hidden state space, divide and conquer, decomposition, communicating class, graph theory.*

Using the Naïve Bayes method for recognition of MNIST character

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***Abstract*: In this paper, we present the classification method of Naïve Bayes applied to the characters. We used the binarization and skeletonization in the preprocessing, and an extraction of the following structural characteristics approach method. The experimental results are applied to the base of MNIST characters.**

***Keywords**: Optical character recognition, Naïve Bayes, feature extraction, MNIST database, classification.*

Extraction of Association Rules by Split and Merge Algorithm

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Abstract: **The stored data hide a number of knowledge, dependencies or correlations, which are implicit and very helpful, and just waiting to be used. For this, a number of algorithms, inspired by the APRIORI algorithm based on the extraction of frequent item set patterns were presented. The peculiarity of these algorithms is that they generate a huge number of rules to make their operations virtually impossible by experts. In this paper, we propose to make a state of the art on the extraction of association rules based on the extraction of frequent item sets algorithms. These algorithms are seen as a promising alternative to reduce the size of the association rules discovery. We propose Algorithm Split and Merge and an implementation of this algorithm as a plugin JavaScript to make usable in any platform.**

Keywords: ***item, item set, frequency, SaM, Split And Merge, ReLim, Apriori.***

Blind Identification of FIR using the high order cumulants

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Abstract: **Modern telecommunication systems require very high transmission rates; therefore, the problem of channels identification is a major challenge. The use of blind techniques allows an optimal compromise between a suitable bit rate and the quality of the retrieved information. In this research study, we try to compare the different proposed algorithms, based on combining higher order views identification efficiency and execution time.**

Keywords: ***Transmission channel, Telecommunication systems, Blind identification, higher order cumulants, Transmission channel with Gaussian noise.***

A comparative study of K-MEANS classification methods for image processing

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Abstract : **A problem in the area of information processing is achieved to simplify information. A simple method to remedy the situation is to bring together in the same class different items wearers of information almost similar. In the case of image processing, the bearer item of information is the pixel and the information we seek to classify is its gray level, this operation aims to separate different homogeneous areas of an image, In this paper, we present different norms of k-means iterative algorithm for classification of image areas namely the Euclidean norm, the L1 norm, L2 norm, the Linfinie norm and the Mahalanobis norm for determining the difference existing between them and to make a comparative study based on the quality of the classification and the computing time**

Keywords: ***k-means, classification,***

Detection and recognition of road signs, using the polygonal approximation and neural networks

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Abstract: **Traffic Sign Recognition (TSR) has many features help the driver in improving the safety and comfort, today it is widely used in the automotive manufacturing sector, a system for detecting and robust recognition is a good solution for driver assistance systems, it can warn the driver and control or prohibits certain actions which significantly increase driving safety and comfort. This paper presents a study to design, implement and test a method of detection and recognition of road signs based on computer vision. The approach adopted in this work consists of two main modules: a detection module which is based on detection of color and contours to identify areas of the scene may contain road signs and a recognition module based on the perception multilayer whose role is to match the patterns detected with road signs corresponding visual information. The development of these two modules is performed using the C / C + + language and the OpenCV library. The tests are performed on a set of real images of traffic and show the performance of the system being developed.**

Keyword: ***Traffic sign recognition, contours identification and detection, C/C++ Language***

A survey on IPv6 Security

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Abstract: **The protocol currently used mainly for Internet communications is IP (Internet Protocol). The most widely used version of IP version 4 and has not been any major changes since the founding document, RFC 791, September 1981. IP version 4 has been quite robust throughout the development of the Internet. However, a number of features and changes have not been taken into account , which leads to the need to develop a successor to the current IP protocol. Among current developments poorly regarded by IPv4 include:**

- **the rapid growth of the Internet, which quickly leads to exhaustion of available IPv4 addresses;**
- **the proliferation of mobile communicating systems (PDAs, mobile phones , etc);**
- **The development of new multimedia broadcast services (video and Internet radio, video , etc.) .**
- **The natural successor could logically be IP version 5, but this version has been attributed to an experimental protocol: ST (Internet Stream Protocol), defined for the first time in 1979 and has never reached the public. The successor was therefore chosen as the IPv6. Technical details of the protocol are based on the document [RFC3513]. We will deal with them briefly; the goal here is not to describe the intricacies of the protocol, but rather to understand the issues related to its security.**

Keywords*: survey, IPv6, security, IP version 5*

Computerization of the FST the library through the UML standard

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Abstract*:* **The objective of this paper is to propose a UML modeling of the computerization of the library of Faculty of Science and Technology of Beni Mellal based on the integrated management library system PMB. This choice is justified by the fact that the UML present the fusion of more than 250 object-oriented methods and that it is the gold standard in the field of object-oriented modeling.**
UML modeling was done in parallel to the parameterization phase of this system to make the application more understandable for managers to facilitate handling at: the insertion, update, and search for loans.

Keywords*: Computerization, Analysis, Design, UML*

Routing protocols in ad hoc networks: A survey

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Abstract**: Routing is the process of selecting best paths in a network, it is to provide a strategy that ensures, at any time, an institution routes that are correct and effective between any pair of node belonging to the network. Given the limitations of ad hoc networks, route construction should be done with a minimum of control and consumption of bandwidth. In what follows, we study the routing in ad hoc networks and different mechanisms appeared to solve this problem.**

Keywords: Routing, Ad Hoc Networks

A survey on the security of mobile ad hoc networks

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Abstract: **The continuous development of networks has spawned a new technology called mobile ad-hoc networks typically named MANET, these networks don't have any prior infrastructure. This allows having several features: Simple and easy installation, dynamic topology, absence of cabling, users can move freely within the coverage area of the network … etc. Due to their features, these networks become more vulnerable to attacks and security becomes a major issue. In this survey paper, we study the various attacks on ad-hoc networks. Moreover, we examine security solutions for these networks.**

Keywords: ***MANET network, security, toplogy, mobile ad hoc netorks***

Automatic brain tumor extraction for Magnetic Resonance Images

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*Abstract***: In this paper, we present a new approach that allows the detection, segmentation and extraction of brain tumours. The approach is based on covariance and geodesic distance. The detection of central indices of abnormal tissues is based on the covariance method. These indices used to segment the brain tumour area using geodesic distance for T1 and T2-weighted magnetic resonance images (MRI). The ultimate objective is to retrieve the attributes of the tumour observed on the image to use them in the step of segmentation and extraction. The present methods are tested on T1-weighted and T2 images and have shown a better performance in the analysis of biomedical images.**

Keywords: ***Biomedical Images Processing, Detection, Segmentation, Extraction, Covariance, Geodesic Distance.***

Mobility management in a wireless sensor network under energy constraint: Genetic Algorithms Approach

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Abstract: **The wireless sensor networks (WSNs) are coordinating a set of sensors communicating with each other. The concept of network related to this new concept is well-known computer as it relates to a familiar area in computer networks and the ever-boiling telecommunications. This field through constant technological progress is now interested in new small devices called sensors capable of interacting with their environment. This new technology promises to revolutionize the way we live, work and interact with the physical environment that around us. In this work, we study a problem of placement of nodes within a network of mobile wireless sensors. Precisely, we consider a critical network in which sensors have their own specific missions that satisfaction depends on their locations. In addition to fulfilling their mission, the sensor nodes want to maintain a good quality of communication with their neighbours which depends also on their locations. To find the location of each node by considering jointly mission costs and the quality of communication, we formulate the optimization problem we want to solve based on genetic algorithms as the backbone of upstream research of this work is in the context of the non-convex optimization.**

Keywords: ***Network, Genetic Algorithms, telecommunication, wireless sensor.***

Association rules extraction by Magalice-A & Magalice-AT+ algorithms

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Abstract: **Data mining is defined as the processing of a large amount of data in order to extract non-trivial and useful knowledge. This analysis allows identifying trends of mass information, grouping data and formulating hypotheses. The purpose of this paper is the study of search algorithms of multilevel association rules. Those algorithms are based on formal concept analysis, which allows the restriction of generating association rules. Among those algorithms MagaliceA, Magalice-AT and Magalice-AT+.**

Keywords: ***Galois lattices (concept lattice), Formal Concept Analysis, data mining, association rules, base of association rules, multilevel association rules, Base to Discover Multi-level Rules.***

Blind Identification and Correction of the Channel Application MC-CDMA System

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Abstract: **My paper presents three algorithms, both for the blind parameter estimation, and the other for correcting the frequency-selective channel with Application to Multi-Carrier Code Division Multiple accses system (MC-CDMA). The first two algorithms are based on the cumulants or (Higher Order Statistics (HOS)), these two will be compared for different number of samples and different signal to noise ratio (SNR). The third algorithm will be used to reduce the influence of channel. The results of simulations are done in the case of the synchronous downlink Proakis channel (B) and the channel A frequency selective BRAN A.**

Keywords: ***MC-CDMA, HOS, Blind Identification, BRAN A, Frequency Selective Channel.***

Numerical study of the image treatment equation by the finite element

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Abstract: **This paper presents the numerical method applied to solve the image treatment equation. After an introduction in the first section, the second section is divided to the proof of existence and uniformed of the solution of the proposed mathematical model is tested numerically using Freten++ and simulation are given and commented.**

Keywords**:** ***Numerical method, image treatment equation, Freten++, mathematical model.***

Optimization and fuzzy logic applied to some inverse problems

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Abstract: **Optimization is an essential tool in many engineering applications (eg, signal processing, control, VLSI, machine learning, mechanical design, management, etc..). In the case of inverse problems, optimization defines what is called the best "acceptable solution". Fuzzy logic is all that concerns the accuracy and assistance similar decision in human reasoning. As inverse problems are not well posed, the algorithms used are still struggling with the disruption despite intensive work dealing with this subject.**

In this paper we develop numerical methods which consist in combining some global optimization algorithms with the fuzzy logic inference systems.

Keywords: ***inverse problems, fuzzy logic, optimization***

Relational Object

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Abstract: **The object-relational model (OR) shows the relational model by adding the concepts of the object model, to fill gaps in the relational model. It involves combining the performance of relational and richness of the object approach and with a view to ensure backward compatibility. Meanwhile, the SQL standard has been extended by introducing SQL3 object extension. In this presentation, we will demonstrate how we could integrate the concepts of object-level relational model, and all enrichments of SQL2. Oracle DBMS is used to illustrate the object-relational concepts.**

Keywords: ***Object relationel, SQL3, SQL2, Oracle DBLs***

Towards a new maturity model for information security management

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Abstract: **Maturity Models are significant tools to ensure continuous improvement of systems and activities. They follow self-assessment and provide a means of benchmark of these activities linked to best practices. Many Maturity Models have been developed for management Information system and specifically, information security management. In the recent years, management of information security becomes very important for the activities of organizations and helps to increase performance. In this context, this article suggests a new maturity model for information security management in order to identify and explore the strength and weaknesses of particular organization's security. It is intended as a tool to evaluate the ability of organizations to meet the objectives of security.**

Keywords: ***Maturity Models, Information Security, Management, Performance, Organizations.***