CONFERENCE ABSTRACTS

2017 8th International Conference on Computer Technologies and Development

(ICCTD 2017)

2017 3rd International Conference on Knowledge and Software Engineering

(ICKSE 2017)

March 20-22, 2017

Paris, France

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Welcome Message from Organising Committee

It is our great pleasure to invite you to join our international conferences- 2017 8th International Conference on Computer Technologies and Development (ICCTD 2017) & 2017 3rd International Conference on Knowledge and Software Engineering (ICKSE 2017). This event will provide a unique opportunity for editors and authors to get together and share their latest research findings and results. We look forward to welcoming you at Paris, France.

We're confident that over the two days you'll get the theoretical grounding, practical knowledge, and personal contacts that will help you build long-term, profitable and sustainable communication among researchers and practitioners working in a wide variety of scientific areas with a common interest in computer technologies and development & knowledge and software engineering.

On behalf of all the conference committees, I would like to thank all the authors as well as the technical program committee members and reviewers. Their high competence, their enthusiasm, their time and expertise knowledge, enabled us to prepare the high-quality final program and helped to make the conference become a successful event.

I truly hope you'll enjoy the conference and get what you expect from the conference.

Organising Committee
February 27, 2017

Conference Location and Directions

TIMHOTEL Berthier – Paris XVII

http://www.timhotel.com

Add: 4, Boulevard Berthier – 75017 Paris – France
Tel.: +33 (0)1 46 27 10 00 / 01.77 (ligne directe du lundi au vendredi de 9h00 à 17h30) | Fax: +33 (0)1 46 27 00 57

Instructions for Oral & Poster Presentations

Oral Presentations

- **Time:** a maximum of 15 minutes in total, including speaking time and discussion. Please make sure your presentation is well timed. Please keep in mind that the program is full and that the speaker after you would like their allocated time available to them.

- You can use CD or USB flash drive (memory stick), make sure you scanned viruses in your own computer. Each speaker is required to meet her / his session chair in the corresponding session rooms 10 minutes before the session starts and copy the slide file (PPT or PDF) to the computer.

- It is suggested that you email a copy of your presentation to your personal in box as a backup. If for some reason the files can't be accessed from your flash drive, you will be able to download them to the computer from your email.

- Please note that each session room will be equipped with a LCD projector, screen, point device, microphone, and a laptop with general presentation software such as Microsoft Power Point and Adobe Reader. Please make sure that your files are compatible and readable with our operation system by using commonly used fronts and symbols. If you plan to use your own computer, please try the connection and make sure it works before your presentation.

- Movies: If your Power Point files contain movies please make sure that they are well formatted and connected to the main files.

Poster Presentations

- Maximum poster size is 36 inches wide by 48 inches high (3ft.x4ft.)

- Posters are required to be condensed and attractive. The characters should be large enough so that they are visible from 1 meter apart.

- Please note that during your poster session, the author should stay by your poster paper to explain and discuss your paper with visiting delegates.

Dress Code

- Please wear formal clothes or national characteristics of clothing.

Daily Schedule

March 20, 2017 (10:00am-17:00pm)		
10:00am-17:00pm	**Arrival and Registration**	Venue: Lobby
March 21, 2017 (9:30am-20:00pm)		
9:30am-9:40am	**Opening Remarks:** Prof. Sunil Vadera, Computer Science at University of Salford, UK	Venue: Salon Eiffel Rom
9:40am-10:20am	**Plenary Speech I:** Prof. Marat Akhmet, Middle East Technical University, Turkey	Venue: Salon Eiffel Rom
10:20am-10:40am	**Coffee Break & Group Photo**	Venue: Salon Eiffel Rom
10:40am-11:20am	**Plenary Speech II:** Assoc. Prof. Davy Monticolo, the ERPI Laboratory of the University of Lorraine, France	Venue: Salon Eiffel Rom
11:20am-12:00am	**Keynote Speech I:** Prof. Sunil Vadera, Computer Science at University of Salford, UK	Venue: Salon Eiffel Rom
12:00am-13:00pm	**Lunch-Hotel Restaurant**	
13:00pm-15:00pm	**Session One: Software and Intelligent Application**	Venue: Salon Eiffel Rom
13:00pm-15:00pm	**Session Two: Information Network and Technology**	Venue: Salon Montmartre
15:00pm-15:30pm	**Coffee Break**	Venue: Salon Eiffel Rom
15:30pm-17:45pm	**Session Three: Data Analysis and Signal Processing**	Venue: Salon Eiffel Rom
15:30pm-17:45pm	**Session Four: Computer Science and Application**	Venue: Salon Montmartre
19:00pm-20:00pm	**Dinner-Hotel Restaurant**	
March 22, 2017 (8:30am-18:30pm)		
8:30am-18:30pm	**One Day Tour (Self-helped Tour)** Cathédrale Notre Dame de Paris, Shakespeare & Compan➝Musée Rodin, Musée d'Orsayl'➝Arc de triomphe de l'Étoile➝Avenue des Champs – Elysées	

Tips: Please arrive at the conference room around 10 minutes before the session begins to copy your PPT into the conference laptop.

Keynote Speaker

Prof. Sunil Vadera
Computer Science at University of Salford, UK

Sunil Vadera is a professor of computer science and the head of the School of Computing, Science and Engineering at the University of Salford. He is a fellow of the British Computer Society, a chartered engineer (C.Eng) and chartered IT professional (CITP). He gained a first class BSc(Hons) in computer science and mathematics from the University of Salford in 1982, receiving three best student prizes. Following graduation, he began his career as a research assistant and progressed to a lectureship in computer science in 1984. He holds a PhD from the University of Manchester in the area of formal methods of software development which was awarded in 1992. He was promoted to a senior lecturer in 1997 and to a chair in computer science in 2000.

Sunil was chair of the British Computer Society Academic Accreditations Committee with responsibility for professional accreditation of all UK University programmes in computer science from January 2007 to December 2009. His research is driven by the desire to close the gap between theory and practice in artificial intelligence, with expertise in the areas of Bayesian networks, decision tree learning, credit assessment and planning.

Speech Title: "From Bagging to Bandits for Cost-Sensitive Decision Tree Learning"

Abstract: Decision tree learning is one of the major success stories of AI, with many data mining tools utilizing decision tree learning algorithms. Recent research in this field has been influenced by realizing that human decision making is not focused solely on accuracy, but also takes account of the potential implications of a decision. For example, a chemical engineer considers the risks of explosion when assessing the safety of a process plant, a bank manager carefully considers the implications of a customer defaulting on a loan and a medical consultant does not ignore the potential consequences of misdiagnosing a patient.
This realisation has led to significant interest in developing cost-sensitive decision tree learning algorithms. This key note presents a tour of the rich variety of cost-sensitive decision tree algorithms, aimed at illuminating the characteristics of the algorithms that will help researchers

position their own work and identify gaps for future research. The key note will begin with early algorithms that make minor changes to the entropy based selection measure used in C4.5, present use of genetic algorithms to evolve cost-sensitive trees, describe the use of bagging and boosting, and conclude with recent work that explores ideas such as non-linear trees and multi-arm bandits. The presentation will be based on the authors work with colleagues and PhD students over the last decade, some of which is reported in the following publications:

- Sunil Vadera (2010), CSNL: A Cost-Sensitive Non-Linear Decision Tree Algorithm, ACM Transactions on Knowledge Discovery from Data, Vol 4, No 2, pp1-25.
- Lomax, S. and Vadera, S. (2011). An empirical comparison of cost-sensitive decision tree induction algorithms. Expert Systems, 28: 227–268
- Lomax, S. and Vadera, S. (2013). A survey of cost-sensitive decision tree induction algorithms, ACM Computing Surveys, Vol 45, No 2, pp1-35.
- Lomax, S. and Vadera, S. (2016) A Cost-Sensitive Decision Tree Learning Algorithm Based on a Multi-Armed Bandit Framework, The Computer Journal, DOI: https://doi.org/10.1093/comjnl/bxw015
- Nashnush, E. and Vadera, S. (2017) .Learning cost-sensitive Bayesian networks via direct and indirect methods, Integrated Computer-Aided Engineering, vol. 24, no. 1, pp. 17-26, 2017

Papers available from http://usir.salford.ac.uk/view/authors/13105.html

Plenary Speakers

Prof. Marat Akhmet

Middle East Technical University, Turkey

Marat Akhmet is a professor of mathematics at Middle East Technical University (Ankara, Turkey) known for his research on the chaos and bifurcation theory in differential equations and hybrid systems with applications in physics, neural networks, biology, medicine and economics. Born in Kazakhstan, he studied at Aktobe State University. He received his doctorate in 1984 at Kiev University. He has been awarded a Science Prize of TUBITAK (Turkey, 2015), for best achievments in scientific research. He is an author of four books: "Principles of Discontinuous Dinamical Systems", Springer, 2010, "Nonlinear Hybrid Continuous Discrete-Time Models", Atlantis Press (Springer), 2011, "Neural networks with Discontinuous Impact Activations," Springer, 2014, and "Replication of Chaos in Neural Networks, Economics and Physics", Springer&HEP, 2015. His has solved the Second Peskin conjecture for Integrate-and-fire biological oscillators, has introduced and developed theory of differential equations with piecewise constant argument of generalized type, many aspects of discontinous dynamical systems. The last decade his main subject of research is input-output analysis of chaos and irregular behavior of hybrid neural networks.

Speech Title: "Poincare Chaos and Prospects for Neural Networks Research"

Abstract: The presence of chaos is assumed as one of reasons for brain power and methods to increase functioning of robotics. Recently, we have introduced in papers [1-3] a new type of chaos. The phenomenon was called Poincare chaos. The chaos is initiated from new concepts of unpreictable point, unpredictable orbit and unpredictable function. By detailed discussion of the dynamics and application for differrential and discrete equations we will demonstrate how to extend neural networks research.

Assoc. Prof. Davy Monticolo

The ERPI Laboratory of the University of Lorraine, France

Davy Monticolo is currently associate professor in the ERPI Laboratory, University of Lorraine, Nancy, France. He teaches knowledge engineering, web intelligence and agile project management at the Department of Innovation and Industrial Engineering. He got his HDR in December 2015 at the University of Lorraine and he received his Ph.D. (2008) in the University of Technology of Belfort-Montbéliard (France) and a M.S. (2005) degree in the University of Savoie, France. His research interests are: web intelligence, multi-agents systems, knowledge engineering and modelling, semantic web and ontologies used to design knowledge based systems. He is a member of the board of the French Research Association to promote Artificial Intelligence (AFIA). He is also the chair of the IEEE International Workshop KARE (Knowledge Acquisition Reuse & Evaluation) since 2008.

He is the chair of the IEEE KARE (Knowledge Acquisition Reuse and Evaluation) international workshop. He is also in the board of the AFIA (French Research Group of Artificial Intelligence).

Speech Title: "Knowledge Management inside Open Communities on the Web, the Intersection between Semantic and Intelligent Web Systems"

Abstract: The Web became a virtual place where persons, professional actors constitute online organizations and open communities using software and applications to interact and exchange know-how and knowledge. The huge volume of data (text, posts, tags, images, videos, etc.) created by those communities has to be exploited to make better and more informed decisions that could help solving global societal problems. To achieve this goal we need to build intelligent knowledge based systems and recommendations systems to handle the data and to make the link between humans and machines by taking into account of the ethics rules. These interactions between humans and machines create many issues, the one is to build efficient intelligent web architectures capable to manage complex human organizations and also to bridge the gap between the social semantics generate by humans and formal semantics used by computers.

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Oral Presentation Abstracts

Session 1：Software and Intelligent Application

Venue: Salon Eiffel Rom
Chair: Assoc. Prof. Davy Monticolo
The ERPI Laboratory of the University of Lorraine, France
Time: 13: 00pm-15:00pm

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* The certification of Oral/Poster presentation, listeners, will be awarded at the end of each session.
* To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session, and the scheduled time for presentations might be changed due to unexpected situations, please come as early as you could.

TD014 Time: 13:00pm-13:15pm	Image-Based Precise 3D Human Model Customisation on Smart Phones for Fashion Applications Shuaiyin Zhu and **Tracy P. Y. Mok** The Hong Kong Polytechnic University, Hong Kong

Abstract: Online shopping becomes more and more popular, particularly among the younger generation. In the US, online sale has a yearly growth rate of 4.6%, much higher than sale in traditional physical stores. China has the largest online population in the world, and over 50% of the internet users in China would shop online. Although the volume and total value of online shopping increase rapidly, there are still a few bottlenecks for selling fashion products online. Among which, accurate representation of individual customers' body shapes is an imperative yet challenging technology enabler for fit evaluation.
We proposed a photo-based human model customisation solution eM+, which users take photos with their smart phones, from which users' 3D body models are reconstructed to give detail size and shape information. By taking advantage of a large database of over 10000+ scanned subjects in tight-fit undergarments, we develop robust image processing algorithms to automatically extract and predict users' 2D body profiles under clothing from input images. The predicted 2D body profiles (both front and side view) are then used to reconstruct the3D body model of the subject using the state-of-the-art 3D human model customization technology. The resulting human models have realistic appearance, detailed shape characteristics, and accurate sizes. The accuracy of the resulting models has been verified by experiment and it is proved to give detailed size and captures individual customers' shape characteristics such as shoulder slopes, back and abdomen shapes. The advantage of this technology is that users need not to take photos in tight-fit clothing but also in other normal or even loose-fit clothing. By applying the advanced image processing and 3D modelling technology on smart phone platform, this can be used by fashion retailers in their online stores that they customise virtual models for individual customers and to realise online clothes-fitting. This provides customers with a brand new online shopping experience, improves customer satisfactory and lowers the return rate of online purchased apparel because of more accurate size suggestion. We receive positive feedbacks from the

fashion industry, and we will explore to apply the technology in tailor-made clothing domain.

TD008 Time: 13:15pm-13:30pm	p≡p – pretty Easy privacy (Whitepaper) **Hernâni Marques** pEp Foundation, Switzerland

Abstract: p≡p stands for pretty Easy privacy: p≡p is thoroughly easing the use of well-known and established end-to-end cryptographic tools for already existing and widely used written digital communication channels (like e-mail, SMS or chat). Ultimately, p≡p wants to change the default in written digital communications: from unencrypted, unverified and unanonymized to encrypted, verified and anonymized – This means a unique and huge improvement for businesses, for public offices as well as for all citizens.

p≡p's protocols automate the steps taught to users at cryptoparties to protect personal security and privacy by default. Thus, we are able to provide total protection on a state of the art expert encryption level for everyone regardless of their technical knowledge or expertise and for a substantial portion of their communication needs.

p ≡ p supports multiple platforms (iOS, Android, Linux, BSD, MacOS, Windows), multiple languages, multiple crypto technologies and multiple message transports as well as devices. We offer a 100% Peer-to-Peer, End-to-End and device based secure synchronization of keys and configuration that is cheaper, faster, easier and better than any existing solution ("Faster" measures download and install. The p≡p Installer takes less than 10s, asks no questions or information). Development wise, we provide very simple APIs to allow for easy integration of p≡p into application programming.

All software published by p≡p foundation is and shall forever remain open source as well as freely available for the general public. All p≡p software is and will be subject to an independent code review.

In summary p≡p innovates on multiple fronts to change the defaults: It Makes Digital Privacy Easy – and empowers the user to have Privacy running on Open Source software. Please find further information here: https://pep.foundation/docs/pEp-whitepaper.pdf; https://pep.foundation/docs/code-audits/2016-report-pepengine-v0.2e.pdf.

TD010 Time: 13:30pm-13:45pm	Improving Readability of Software Model with Adding Visualized Extra Information to UML Diagram **Reyhaneh Raissi** University of Science and Technology Lille 1, LIFL Laboratory, France

Abstract: This paper basically focuses on improving readability of software models. The goal of this research is the enhancement of readability and usability of UML diagrams which increases the interaction between users, programmers and software. UML generally focuses on the main aspect of the software, putting aside other concerns or "useful information" and only tries to display specific aspect at a certain time. Although, specific representation simplifies the understandability of whole diagram, removes useful contextual information. We demonstrate how to represent contextual information by visualizing "useful information" in UML diagrams. These diagrams are created from Java code using reverse engineering plug-in. This goal is achieved by adding extra information to diagram elements in form of different visual variables (such as color, brightness, text and border

decoration, etc.). "Useful information" could be any obtained information during the software proceeding. Useful information and its relevant visual variables have been mapped to Java annotations, and these visualized information have been added to diagram. Embedding the "useful information" as Java annotations was done by means of Java language. Afterward, representing and visualizing contextual information in UML diagrams was conducted by JavaScript.

KS008-A Time: 13:45pm-14:00pm	A Model for Establishing and Evaluating the Process of Requirement Elicitation **Ahmad Khader Habboush** Department of Computer Science, Jerash University, Jordan

Abstract: Software requirement is a critical task in software development. Software project completely relies on the definition of the software requirements and the project development is conducted based on it. The proposal of software project and the definition of the software requirement is an important factor for the success of the project. Five over twenty factors that affect the success of the software project are related to the understandability of the software requirements. This work, investigates the key factors and the characteristics that affect the success of the software project development. A new model for verifying the requirements of software project is proposed. That is in order to enhance the quality of the defined requirements and reduce the risk of the development process. The model is discussed theoretically based on the literature and the key characteristics of the software requirements.

KS010 Time: 14:00pm-14:15pm	MLDA: A Multiple Levels Detection Approach for Design Patterns Recovery **Mohammed Al-Obeidallah**, Miltos Petridis, Stelios Kapetanakis Department of Computing, University of Brighton, Brighton, United Kingdom

Abstract: Design patterns have a key role in the software development process. They describe both structure, behavior of classes and their relationships. During the maintenance phase, architects can benefit from knowing the underlying software design choices made during the implementation. Moreover, design patterns can improve software documentation, speed up the development process and enable large-scale reuse of software architectures. This paper presents a Multiple Levels Detection Approach (MLDA) to recover design pattern instances from Java source code. The novelty behind MLDA is its ability to extract design pattern instances based on a generated class level representation of an investigated system. Specifically, MLDA presents what is the so-called Structural Search Model (SSM) which incrementally builds the structure of each design pattern based on the generated source code model. As the experiment results illustrate, MLDA is able to extract 22 design patterns with reasonable detection accuracy.

KS017 Time: 14:15pm-14:30pm	Working Experiences of Planning, Design and Implementation for Software Load Testing **Chen Yiju** Institute for Information Industry, Taiwan

Abstract: SWEBOK [1] indicates that Software Testing is one of the 10 core parts in Software Engineering whatever your development model. For Software quality assurance, we may need Functional Testing, Non-Functional Testing or both. Speaking of Performance Testing, it belongs to Non-Functional Testing and can be subdivided to Load Testing, Stress testing, Soak Testing, Spike Testing、Configuration Testing and Isolation Testing [2]. Among them, Load Testing is the most frequently-executed testing type and closely linked with us. For example, the ticket-booking website may fail or crash as soon as a Lady Gaga concert begins to sell. In this case, the sudden huge number of users (equivalent to heavy loads) may slow down the system, causing some transactions to become failed and even crash the system if it doesn't have Load Testing before the website gets online. This can cause huge loss whatever in business revenues or reputations. As you can see, it's so important to understand your system's max loading before it goes to production environment, because system providers still have chance to do performance tuning to improve the system quality. Besides, I notice that there are almost no articles on the Internet which provide the practical steps or complete process for Load Testing. In view of this, I've summarized the 4 steps for proceeding Load Testing which can be used both by testers or system providers.

KS019 Time: 14:30pm-14:45pm	Challenges and Best Practices for Mobile Application Development: Review Paper **Alhanouf Aldayel** and Khalid Alnafjan Software Engineering Department, King Saud University, Riyadh, Saudi Arabia

Abstract: Over the last ten years or so, mobile devices technology has changed significantly, with these devices and operating systems becoming more sophisticated. These developments have led to a huge variety of mobile applications designed for mobile operating systems. These mobile applications are typically harder to design and build because of several factors such as screen size and limited processing power and so forth. Therefore, it is important to clearly identify the characteristics of mobile application development and the issues and challenges related to it, as well as, the key features that characterize a great mobile application which make them valuable and useful. This paper has reviewed existing literature of the challenge and best practices of mobile application development. This study contributes towards a great understanding of the characteristics of mobile application development process, examines real challenges faced and explores the best practices that can be effectively applied to improve the development of mobile application.

TD053 Time: 14:45pm-15:00pm	A Study on Using a Smartphone to Broadcast Basketball Games: Prototype Tests based on a Video Calling/Conferencing Platform **Kai-Li Wang** and You-Hau Chen National Taiwan Sport University, Taiwan

Abstract: Traditional media show less interest in games played by student athletes at primary level, which are considered not impressive and popular. As a result, those interested in such a game have little access to watching the live broadcast. Thanks to the recent popularity of emerging media technologies, this project's research team devised the idea of live-streaming sporting events on a smartphone. Sports games, for their part, are often watched at more shooting angles while being

broadcast than other programs. In addition, broadcasting a sporting event requires a sportscaster, or even an analyst giving professional comments on the game. Simply put, sports broadcasting calls for teamwork. The six-person team of this study tried Google Hangouts, a video calling/conferencing platform that supports smartphones, to live-stream games played in Taiwan's high-school basketball league (HBL) at level B in the year of 2016. The spectators who had followed the live broadcasts for this study were requested to complete a post-game questionnaire. The survey for the first live broadcast contained open-ended questions that required the correspondents to give three advantages and three disadvantages of the live-streaming. A total of 28 questionnaires were then collected, coded and analyzed statistically. The results showed that the top three advantages were: 'appealing anchoring style,' 'better engagement in a sport' and 'more access to watching various games.' The top three disadvantages were: 'image quality not clear enough,' 'slightly unstable movements of camera' and 'insufficient camera angles.' As for the second live broadcast, the research team asked close-ended questions based on the results of the first survey. A total of 21 questionnaires collected showed that: (1) A sportscaster would attract more spectators of the game; (2) Poor lighting and shaky camera movement worsened the broadcasting quality; (3) A game played by a friend would be more engaging to a spectator; and (4) 'Real-time' broadcasting is the core value of user experience.

Session 2: Information Network and Technology

Venue: Salon Montmartre
Chair: Prof. Marat Akhmet
Middle East Technical University, Turkey
Time: 13: 00pm-15:00pm

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TD040 Time: 13:00pm-13:15pm	An Enhanced RED Technique to Insure High QoS in IP Networks **Adel Smeda**, Fgee El-Bahlul, and Khadija Abouelgaseem University Al-Jabal Al-Gharbi, Libya

Abstract: Quality of Service (QoS) is a major factor for a successful business in modern and future network services. While today's computer networks support only best-effort service, future packet networks will have to support real-time communication services that allow clients to transport information with performance guarantees expressed in terms of delay, delay jitter throughput and loss rate. Random Early Detection (RED) algorithm is one of the scheduling mechanisms used in IP network. RED is an active queue management scheme that randomly drops packets whenever congestion occurs that results in dropping traffic flow packets that are sensitive to loss. This results in QoS degradation. In this paper, RED algorithm is modified in order to minimize the packet loss of sensitive traffic flows. Evaluation of the proposed enhancement of the RED algorithm is tested using the Network Simulator (NS-2). Then these results are compared with the current RED algoritm. The proposed RED results show ten improvements in QoS of the sensitive traffic flows.

TD042 Time: 13:15pm-13:30pm	An Analysis of CGM Contents Pageview Using SIR Model and GBM **Kazuhisa Noguchi**, Tomoya Iida and Eisuke Ito Kyushu University, Japan

Abstract: In consumer generated media (CGM) site, such as YouTube and nicovideo, only few contents are viewed very much, but most contents are only viewed few times. Our research target CGM sites are nicovideo.jp and syosetu.com. Nicovideo.jp is a popular movie CGM site in Japan and syosetu.com is the largest novel CGM site in Japan. We already found that pageview distribution of contents in both CGM sites follow a lognormal distribution. In this paper, we consider user's content selection model which will lead lognormal distribution. We apply Geometric Brownian Motion model into SIR model. SIR model is used for simulation of population transition process or epidemic process of infection disease. In this paper, we report the results of some simulation.

TD043 Time: 13:30pm-13:45pm	Development of Information and Communication Technology (ICT) in Container Terminal for Speed up Clearance Process **Evizal Abdul Kadir** Universitas Islam Riau (UIR), Indonesia

Abstract: Currently container terminals are busy to handle high volume of container shipping movement. Conventional operational procedures have difficulties in handling containers movement, thereby slowing clearances and even resulting in some administrative issues in terminal operation. This paper presents an development of Information and Communication Technology (ICT) in a container terminal in order to speed up clearance process. A business process is proposed in container terminal for management system operational flow. Radio Frequency Identification (RFID) technology and ICT are incorporated for the purpose of identifying driver, vehicle, e-seal, and number of containers. The RFID middleware manages all the information between Gate Checker (GC) and Container Terminal Management System (CTMS), as well as RFID reader. The middleware receives information requested by GC from reader and is then verified by CTMS database. Both types of passive and active RFID tags are used in operation of container terminal. In order to comply with the global standard of container terminal ports, a passive RFID was used for driver and vehicle tag, while for container tag used e-seal which is an active RFID tag. The proposed system was implemented and tested at a private Container Port. ICT system implementation at receiving station gate of the container terminal will reduce truck queue and manpower in-charge for operation. The clearance process in conventional manual operational procedure is significantly reduced from average 248 second per container to 57 second per container.

TD045 Time: 13:45pm-14:00pm	Bayesian Trust Scheme: A Decentralized Safety Message Trust Method in Multi-hop V2V Networks **Hanaa S. Basheer**, Carole Bassil, Bilal Chebaro DSST - Lebanese University, Iraq

Abstract: Vehicular Ad hoc Networks (VANETs) have an important role in improving road safety especially when no infrastructure is available. Inter vehicle communications (IVCs) provide decentralized communications where vehicles cooperate together to disseminate road traffic data relying on broadcasting reports and warning messages. Trusting the data of every warning message must be accomplished during dissemination as its information is public. Many researches have concentrated on securing the system entities by adding authenticity to each vehicle or aggregating digital signature. These traditional security schemes at some point needed a central management. In this paper, we introduce an approach to trust the information of the warning message before disseminating it through multi-hop V2V communications. This approach is a decentralized scheme that relies on evaluating random environment variables and their conditional dependencies using Bayesian Network (BN). Our contribution is depending on two-stage decentralize data trusting scheme that the warning message passed through before forwarding it further to avoid nodes from acting maliciously.

TD047 Time: 14:00pm-14:15pm	Internet of Medical Things (IOMT): Applications, Benefits and Future Challenges In Healthcare Domain **Gulraiz Javaid Joyia**, Rao Muzamal Liaqat, Aftab Farooq, Saad Rehman Department of Computer Engineering, National University of Sciences and Technology, Islamabad, Pakistan

Abstract: Internet of Medical things (IOMT) is playing vital role in healthcare industry to increase the accuracy, reliability and productivity of electronic devices. Researchers are contributing towards a digitized healthcare system by interconnecting the available medical resources and healthcare services. As IOT converge various domains but our focus is related to research contribution of IOT in healthcare domain. This paper presents the peoples contribution of IOT in healthcare domain, application and future challenges of IOT in term of medical services in healthcare. We do hope that this work will be useful for researchers and practitioners in the field, helping them to understand the huge potential of IoT in medical domain and identification of major challenges in IOMT. This work will also help the researchers to understand applications of IOT in healthcare domain. This contribution will help the researchers to understand the previous contribution of IOT in healthcare industry.

TD017 Time: 14:15pm-14:30pm	Profiles matching in social networks based on semantic similarities and common relationships **Ali Choumane**, Zein Al Abidin Ibrahim, Bilal Chebaro Faculty of Science, Lebanese University, Lebanon

Abstract: Social networks have experienced an explosion in both the number of users and shared data. Users of social network sites are constantly troubled by information overload as there are too many people to interact with and too much content to consult. So, helping users to find new relationships and relevant content is becoming a major challenge for these sites. The most popular social networks now offer tools to search content, people, pages, etc. but also recommend items of interest to the user. We cite as an example the famous phrase used by Facebook "People you may know" followed by a list of people who often belong to the user's environment (friends of friends), working or having worked in the same company, etc. This type of recommendation explores the links between users and few simple attributes (work company, address, ...) but neglects the published content. In this article, we propose a new persons' recommendation approach based on profiles matching by integrating both semantic similarities and common relationships between users. We conducted an experimental study, on real data from Twitter, that compares our approach with lexical and semantic matching methods.

TD034 Time: 14:30pm-14:45pm	Culstering Approach Contents Diversity Evaluation in a Video Sharing CGM Site **Kyohei Kamihata**, Kazuhisa Noguchi and Eisuke Ito Kyushu University, Japan

Abstract: Resent years, consumer generated media (CGM, for short) sites become very popular in the world. Especially, video sharing CGM sites, such as YouTube and nicovideo are grown into important social movie media. A lot of movies are posted to a CGM site, and many users are viewing them every day.

Some Web news articles mentioned that the diversity of movie contents might decrease in CGM sites. We believe that contents diversity is necessary to keep CGM site activity, and for cultural sustainability.

To evaluate contents diversity quantitatively, we were proposed a cosine similarity based measure for contents diversity. We applied our measure to movie content metadata of nicovide.jp, and we found that diversity of nicovideo.jp contents are decreasing monthly. Where, nicovideo.jp is the most popular movie sharing CGM site in Japan.

We try to apply clustering method to nicovideo movie content metadata. In this presentation, we will report results of clustering.

TD011 Time: 14:45pm-15:00pm	A Universal Test System Framework and Its Application on Satellite Test **Xiuhai Cui**, Yu Peng, Xiyuan Peng Harbin Institute of Technology, China

Abstract: To improve the universal of the test system, save the test cost and reduce the tester development time, this paper proposes a universal test system framework which is composed of four layers which are user layer, API (Application Program Interface) layer, IVI-COM layer, and hardware layer. The test framework efficiently combines the IVI-COM interchangeability and FPGA reconfigurability. The both combination can improve the test system's scalability and versatility. To improve the universal of the test system, a universal model is designed for different types of switches. Based on this module, back-tracking algorithm is selected to find a path between different ends of the switch. This search method can quickly find the path and solve the problem of which the configurable channel is occupied by another path. This model allows designing a driver suitable for different switches. It reduces the workload of the instrument of manufacture. With this kind of test framework, in one IDEs (intergraded development Environments), we design and develop different test system for satellite. One is PXI (PCI extensions for Instrumentation) test system, the other is VXI (VME extensions for Instrumentation) test system. The experiment results show the PXI system and VXI test system both work correctly in ground satellite test. The switch modules embody a good interchangeability, the communication modules reflect a good reconfiguration. The combination of interchangeability and reconfigurability of test system can effective reduce the tester development time, save the test cost, and improve the universal of the test system.

Session 3：Data Analysis and Signal Processing

Venue: Salon Eiffel Rom
Chair:

Time: 15: 30pm-17:45pm

Note:
* Session photo will be taken at the end of the session.
* Copy PPT/PDF on conference laptop 10 minutes earlier before each session starts.
* For the best presentation of each session, it's encouraged to award it to student author prior.
* The certification of Oral/Poster presentation, listeners, will be awarded at the end of each session.
* To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session, and the scheduled time for presentations might be changed due to unexpected situations, please come as early as you could.

TD002 Time: 15:30pm-15:45pm	Enhancing Online Similar Web Pages Advisor with Support of Text Processing **Metin Turan** İstanbul Commerce University, Turkey

Abstract: The Web is a lifestyle of this era. User searches information on Web data by daily usage. The problem is that when user browsing a Web page and interested in similar pages, then an application is needed to find out related information locations (web pages) called similar Web page advisor. It is obvious that this task requires more than a Web search engine.
In this study, a simple text processing technique for English is devised in order to rearrange the output of the Web search engine. In other words, the HTML content of the Web pages on the links suggested by Web search engine are further processed and evaluated so that enhanced ranking of the top ten links is presented to the user.
The output of the System is compared with the well-known similar tool Chrome "similar Web pages" add-on application. The average Cosine similarity of the original Web page and suggested ten Web pages is considered. Our System overwhelms Chrome "similar Web pages" add-on. Moreover, it is more stable if different types of Web pages are considered.

TD016 Time: 15:45pm-16:00pm	UGSD: Scalable and Efficient Metadata Management for EB-Scale File Systems Xin Liu, Jieting Wu, Yutong Lu, Chunjia Wu, **Yachao Shao** Jülich Research Center, Germany

Abstract: In existing ultra-large-scale file systems, file data and metadata are stored and processed separately. Efficient and scalable metadata management is one of the most critical aspects that may affect overall system performance in file systems, especially in the EB era. Directory subtree partitioning and hash partitioning are two main techniques in metadata management, but both have more or less problems in the efficiency and performance. We present UGSD metadata management system that separates the storage and service of metadata. It partitions the metadata based on the granularity of user group sub-directory, so as to preserve the inherent tree structure of namespace and

directory locality. We use a simple two-level MOD mapping function and a table to achieve efficient distribution and location of metadata, and the mapping between metadata server (MDS) and metadata storage server (MDSS). We propose the synchronization updating and peak-shaving scheme for dynamic adjustment of the number of MDS and the workload without metadata migration. UGSD makes full use of the advantages of directory subtrees and hashing, and make up for their shortcomings.

TD035 Time: 16:00pm-16:15pm	The Homogeneous Ensemble Methods for MLknn Algorithm
	Khalida Douibi, Nesma Settouti, Mohamed El Amine Chikh Biomedical Engineering Laboratory, Tlemcen University, Algeria

Abstract: The multi-label classification is one of the current research orientation since it solves many real problems where each object can have several semantics. One of the categories dedicated for learning from such data is the adaptation methods. In this paper, we propose to improve the performance of the Multi-label K Nearest Neighbors (MLknn) using the ensemble methods (Bagging and Boosting), the proposed method adapts the K Nearest Neighbors algorithm to Multi-label data. The experimental results on five small to larger multi-label datasets from different domains, shows the effectiveness of the ensemble methods to improve the original algorithm.

KS003 Time: 16:15pm-16:30pm	Graphical Keyword Service for Research Papers with Text-Mining Method
	Yejin Jo, Eun-Gyeong Kim, Yongju Shin Korea Institute Science and Technology Information, Daejeon, Korea

Abstract: This paper is for utilization of text mining method to provide visual keywords of the papers and reports. This study presents a visualization approach to secure intuitive understanding rather than abstract, keywords. The statistical examples of few technical papers are shown. The graphical methods in this paper will be helpful tools for researchers, the public who need to access expert literatures. The authors tried to draw graphical methods by using R programming language in this paper. In addition, we expect this work would contribute to the public who want to seek expert papers in easy and intuitive way.

KS004 Time: 16:30pm-16:45pm	Web Cluster on Sparse Data of Social Network Based on Thematic Tree
	Yingjie Liu, Xinhuai Tang Shanghai Jiaotong University, China

Abstract: Theme clustering is classical and pivotal analysis in monitor system of public opinion in social network. The main procedure is to extract the set of keyword of textual content and build vector spatial model to calculate the similarity of different data. However, the outcome is not positive using simple text process because the learning knowledge derives from the text document itself without any semantic features and the textual feature is sparse in short text document. Prior methods using language model in natural language process have been proposed to calculate the similarity and the result proves to be better

than the vector model. We extend the language model in clustering and leverage the characteristic of social network to cluster post data. Our method is designed to be incremental considering online data arrive continuously in social network. We cast the thematic tree retrieving more knowledge of word terms via neural network language model and use topic hierarchy calculating similarity of short text. We measure the cluster quality which shows great improvement with thematic tree.

TD031 Time: 16:45pm-17:00pm	Blind Source Separation with Compressively Sensed Based on SBL **Zhichao Sha**, Fengbo Lu, Weidong Sheng College of Electronic Science and Engineering, National University of Defense Technology, China

Abstract: In this paper an efficient method is proposed for blind separating and reconstructing signals from compressively sensed linear mixtures. We assume that all sources share a common sparse representation basis and nonzero indices of these signals are different mostly. Sparse Bayesian learning (SBL) is developed to estimate the product of mixture matrix and signal. Subsequently, we use clustering method to estimate the mixture matrix and use subspace algorithm to estimate all source signals. Numerical results show efficiency of the proposed algorithm compared to previous method.

TD039 Time: 17:00pm-17:15pm	Channel Coded Processor for Enhanced Safety **Alfons Steinkirchner**, Thomas Fuhrmann, Michael Niemetz Ostbayerische Technische Hochschule Regensburg, Germany

Abstract: Several concepts are known for improving processor safety, all of them having their pros and cons. Some are very resource intensive, others have limited capabilities regarding the provided error safety. In this paper we use research on channel coding of noisy communication channels known from communication theory as an analogy to random bit errors in processors. We incorporate this knowledge into processor design to suggest a new error correction concept by using channel coding in processors. The new concept of a Channel Coded Processor could provide effective implementation of redundancy by the channel coding that enables error correction. The concept could also create a complete chain of redundancy in all areas and components of the processor ranging from the code compiler through the processing hardware to the output of the information.

TD029 Time: 17:15pm-17:30pm	Star Control Points Optimization on Remote Sensing Image Geometric Rectification **Xiangli Tan**, Jungang Yang, Xinpu Deng and Ying Liu Harbin Institute of Technology, China

Abstract: The acquirement of control points is an important step in the geometric correction of remote sensing image. In this paper, effect of the number and spatial pattern of control points on image correction accuracy was analyzed and the image distortion parameter was solved by using star control points (SCPs). The analysis indicates that the more stars is not always good for the accuracy of geometric correction. Hence, to achieve the optimal accuracy, a new method for the optimization of SCPs was studied in this paper. The core idea of this method is that taking the root mean square error (RMSE) as the key criterion

to determine the SCPs and adopting the method of cross validation to determine which SCPs will be selected. If the percentage of the maximum correction error (MCE) in the whole image less than 2(decide on demand) pixels become larger, it shows that the method is effective. Finally, the percentage mentioned above increase from 78.49% to 92.83%. So, what we can conclude is that this method is an effective way which can obviously improve the accuracy of geometric correction of remote sensing image.

TD051	Social Login and Data Storage in the Big Data File System HDFS
Time: 17:30pm-17:45pm	**Youness Madani**, Mohammed Erritali, Jemaa Bengourram Faculty of Sciences and Techniques, Sultan Moulay Slimane University, Morocco

Abstract: Studies have shown that the registration forms on websites are ineffective because many people give false data, forget their login information to the site or just refuse to register, to overcome these problems a new type of authentication is born is the social authentification or social login which is a type of SSO(Single Sign-On),due to this type of authentication enrollment increases to a platform because the user registered to the platform with a simple click of a button authentication without passing by the step of filling a form, choose a username and a secure password.
In this article we will study the social authentication how it works, and how after the authorization of the user we can retrieve personal data to complete registration, we can also use its social authorization on our facebook application to register its data on HDFS in a Big data system to analyze them and personalize its member space in the platforme, using the hadoop framework based on the MapReduce programming.

Session 4： Computer Science and Application

Venue: Salon Montmartre
Chair: Prof. Sunil Vadera
Computer Science at University of Salford, UK
Time: 15: 30pm-17:45pm

Note:
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* To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session, and the scheduled time for presentations might be changed due to unexpected situations, please come as early as you could.

TD007 Time: 15:30pm-15:45pm	ZCP Modernization by Recovering ZCM Models from Existing Platforms **Abdelaziz Mamouni** and Abdelaziz Marzak University Hassan II Casablanca, Faculty of Sciences Ben M'sik, Morocco

Abstract: In this paper a new approach for Zakat Calculation Platforms (ZCP) was proposed, using Model Driven Architecture (MDA) concepts. Also this paper was highlighted the three interesting existing approaches in the context of the present paper especially for providing a better understanding of the proposal. The main aim of this paper is to improve the existing ZCP by guiding stakeholders in this domain in the modelling of extensible, reusable, and portable models which can be communicated to any platform without taking into account technical specifications.

TD015 Time: 15:45pm-16:00pm	Interactive Visualization System of Contexts **Nao Wariishi**, Kazuhisa Noguchi, Akira Aiba, Takahiko Suzuki and Sachio Hirokawa Kyushu University, Japan

Abstract: Manyo-shu is the oldest Japanese waka anthology. Manyo-shu contains about 4,500 waka poetry which were written between the 7th and 8th centuries. On the other hand, Kokin-waka-shu is first original chokusen-waka-shu (chokusen-waka-shu is waka anthology recording waka selected at the behalf of the Emperor). Kokin-waka-shu is said to have been edited in 905, and it contains about 1100 waka poetry. There are many researches on Manyo-shu and Kokin-waka-shu. In these researches, the differences between Manyo-shu and Kokin-waka-shu is often pointed out. In this paper, we focused on such differences and visualized the context where seasonal words are used in Manyo-shu and Kokin-waka-shu. By using the visualized results, we could extract relation between "cherry blossom" and "scatter" in Kokin-waka-shu.

TD021 Time: 16:00pm-16:15pm	On Performance Evaluation of BM-Based String Matching Algorithms in Distributed Computing Environment **Kunaphas Kongkitimanon** and Boonsit Yimwadsana Faculty of Information and Communication Technology and Integrative Computational Bioscience Center, Mahidol University, Thailand

Abstract: String matching algorithms plays an important role in many applications of computer science: in particular searching, retrieving and processing of data. Various fields that rely on computer science for computing and data processing such as science, informatics (e.g. biology, medical, and healthcare), statistics, image, video/signal processing and computational aspect of business (e.g. finance, accounting, and computer security) would benefit greatly from efficient data search algorithm, in particular string matching. Any applications involving the use of database would use string matching algorithm. Many string matching algorithms such as TBM (Turbo Boyer Moore), BMH (Boyer-Moore-Horspool), BMHS (Boyer Moore Horspool Sundays, and BMHS2 (Boyer Moore Horspool Sundays 2) were introduced based on the celebrated BM (Boyer-Moore) algorithm considered to be one of the early efficient string searching algorithms. Although these algorithm offers significant performance improvement over the BM algorithm, they were designed with the assumption of single core computer architecture which executes the algorithm in a serialized manner. Today, multiple-core-processor computers are very common, and applications are designed to process big data thanks to the advanced in computing technology of various fields. High performance computing system utilizing parallel and distributed computing has started to become popular. This work evaluates and compares the performance of the aforementioned string matching algorithms in parallel and distributed environment for high performance computing with respect to that of the serialized single-core computing platform. In this work, the variants of BM algorithms are implemented and evaluated on Apache Spark, a popular distributed computing platform, by executing a set of queries of different search pattern lengths.

TD032 Time: 16:15pm-16:30pm	A Framework for Presentation Slide Design Support **Jie Zhang**, Chuan Xiao , Toyohide Watanabe Xi'an University of Technology, China

Abstract: Presentation slide composition is an important job for knowledge workers. Many researchers propose slide generation and composition methods for presentation slides. A primary challenge of the proposed methods is to generate presentation slides automatically, users have no choice about the structure of the presentation, and cannot participate in the contents and the layouts of the slides. In this paper, We investigate the problem of presentation design support and propose a design support system. Users may select topics to design the presentation structures first, and input or search the contents for the topics, then allot these components into different pages, finally decide the layouts of the slides. A system with a user-friendly interface is designed, based on which experiments are performed to evaluated the effectiveness of the proposed framework.

KS022 Time: 16:30pm-16:45pm	Semantic Modeling of Internal Audit Field **Stamatios A. Theocharis** and George A. Tsihrintzis University of Piraeus, Greece

Abstract: The constantly changing economic environment, in which businesses and public sector organizations in recent years grow and operate, holds risks associated with competition, economic uncertainty and other inherent business risks. Therefore we speak of the need of identifying and managing those risks. Important role in this field is played by the internal audit and internal control systems. This field, running through all the activities of public and private sector bodies while distinguished by the highly complicated methods of operation and organization. To assist the administrations in the management of the audit mechanisms modern and appropriate information systems are required. It is appropriate in this work, as a key step in the field of study to list the relevant concepts and to model the entire system in the form of an OWL ontology. Also present examples of query ontology using Semantic Web technologies and the conclusions reached.

TD009 Time: 16:45pm-17:00pm	Machine Learning for Authorship Attribution in Arabic Poetry **Al falahi Ahmed**, Ramdani Mohamed, Bellafkih Mostafa, Hassan Bushra IBB University & FSTM and INPT, Morocco

Abstract: This paper presented an authorship attribution in Arabic poetry using machine learning. Public features in poetry such as Characters, Poetry Sentence length; Word length, Rhyme, Meter and First word in the sentence are used as input data for text mining classification algorithms Naïve Bayes NB and Support Vector Machine SVM. The main problem: Can we automatically determine who poet wrote an unknown text, to solve this problem we use style markers to identify the author. The dataset of this work was divided into two groups: training dataset with known Poets and test dataset with unknown Poets. In this work, a group of 73 poets from completely different eras are used. The Experiment shows interesting results with classification precision of 98.63%.

TD020 Time: 17:00pm-17:15pm	Creating an Integrated Structure to Support Staff and Students Online during National HE Protests **Juliet Stoltenkamp and Carolynne Kies** University of the Western Cape (UWC), South Africa

Abstract: An integrated support structure of the Centre for Innovative Education and Communication Technologies (CIECT) was implemented at the University of the Western Cape in September 2005. At the time of its establishment it was envisioned that students would inevitably be able to access and engage in blended learning environments across many disciplines. The CIECT team envisioned that lecturers would take joint ownership of these

environments, in relation to the design, development, monitoring of students and research activities. To date, November 2016 this vision has been realised, especially during a time of Higher Education student national protests in South Africa. This national crisis, a movement for free education for all, has recently seen the 'shutdown' of some traditional face-to-face teaching-and-learning events and practices. In turn, the CIECT team has been able to demonstrate how an integrated online support structure was able to contribute to the completion of the 2016 academic programme. The team supported online teaching and assessment activities across disciplines from various geographical settings. The researchers aim to focus on the intensive support of online activities and eAssessments created within the learning management system (LMS). The research will provide quantitative statistics in relation to the number of students and staff who accessed and engaged online modules in order to complete the academic programme during a period when the university was shut-down. Furthermore, the researchers will highlight how a professional support team engaged with lecturers to create online formative and summative assessment tasks, implement sound pedagogical practices, communicate effectively and share learning material.

KS012 Time: 17:15pm-17:30pm	Application of Metaheuristics Algorithms and Signed Graphs to Portfolio Turnover Management **C. Perina**, N. Buckley, and A. K. Nagar Department of Mathematics and Computer Science, Faculty of Science, Liverpool Hope University, Hope Park, Liverpool, United Kingdom Department of Mathematics, Institut National des Sciences Appliquées de Rouen, France

Abstract: Portfolio turnover has taken an important place in portfolio management because of its impact on the trading cost. There are few methods to assess the probability of a portfolio turnover, the most famous one being the representation with signed graphs and even fewer ways to extract from a range of assets the portfolio with the smallest probability of turnover. We use the signed graph method combined to several optimization algorithms to solve this problem. We demonstrate the efficiency of our methods with the data provided by an American asset management company and show how it is possible to extract from a range of assets the portfolio with the lowest turnover probability.

KS014 Time: 17:30pm-17:45pm	What Comes before a Digital Output? Eliciting and Documenting Cultural Heritage Research Processes I. Dudek and **J. Y. Blaise** UMR CNRS/MCC 3495 MAP 31 chemin Joseph Aiguier, France

Abstract: Knowledge-based systems, are today part of many research protocols where they act as powerful means to model, implement and cross-examine the workflows that lead from a set of inputs to a set of outputs.
They remain however tricky to apply in the specific context of heritage science where workflows include a long tail of subjective human decisions, of non-explicit research protocols, of poorly

formalised pieces of knowledge, of highly individual skills, of undocumented, non-reproducible, intuitive interpretations, when not simply of licentia artistica. Yet the heritage science community has witnessed over the past decades the emergence of huge quantities of digital outputs, either following massive digitization efforts, or as a result of the growing capacity of actors to produce digital-born material. How can this move be supported in terms of reproducibility, reusability and cross-examination of results if research protocols remain non-formalised one-shot efforts?

The research presented in this paper bases on the idea that what should be formalised and shared with future generations are not end results alone (outputs) but the methods and processes that lead the making of the output (human skills, tools, technological procedures, cognitive processes, scientific protocols, etc.).

Our contribution addresses a pending issue: how can we today complement traditional approaches to heritage assets documentation with means to describe and record research processes and workflows? The infrastructure we propose raises knowledge representation, visualisation, and information management issues. It applies primarily to a range of specific cultural heritage related artefacts, but is expected to be fairly generic in terms of methodology. In this paper we describe the methods employed in order to elicit underlying activities, support team elicitation through ad-hoc visualisations, promote a consistent visual interfacing of the underlying Information System.

Poster Presentation Abstracts

Venue: Salon Eiffel Room

TD041	Collaborative Filtering Recommendation Algorithm Based on Category and Penalty **Zhengzheng Xu**, Hongji Xu, Hui Yuan, Mingyang Ji, Haiteng Fang Shandong University, China

Abstract: The recommended list generated by the recommender system can help users find recommended result that meet their interests and needs when they cannot find keywords that accurately describe their requirements. In response to the long tail problem and data sparsity problem in recommender system, we propose and analyze a collaborative filtering algorithm based on category and penalty factor in this paper. The algorithm is based on the category attribute information and combines the penalty factor to measure the user's neighbor set for prediction recommendation. The term "category" mentioned in this method refers to a separate information element, mainly a combination of individual items depending on the content. The proposed algorithm can not only better solve the sparsity of rating matrix but also capture the intention of user more effectively. Therefore, the recommended accuracy would be improved. Experimental results show that the algorithm greatly improves the evaluation index compared with the traditional collaborative filtering algorithm.

TD201	Study on the Prediction Method of Fusion Recognition for Characteristic Information of Coal Spontaneous Combustion **Wei-Feng Wang**, Jun Deng, Yuan-Bin Hou, Nai-Guo Wang Xi'an University of Science and Technology, China

Abstract: To solve the technical problems of identification for the dangerous degree of coal spontaneous combustion, the coal spontaneous combustion process is divided into three stages: slow oxidation, accelerating oxidation and intense oxidation in the paper. The prediction method of fusion identification for characteristic information of coal spontaneous combustion is proposed and the sensitivity index of coal spontaneous combustion degree is determined. The quantitative relationship of the characteristic temperature of coal spontaneous combustion and the gas concentration of each index is determined by polynomial least squares fitting method according to the sample test data. The different feature states are classified by SVM and PSO-SVM algorithm. The criterion of the diagnosis and early warning of coal spontaneous combustion is given according to the results of the data level and feature level. The proposed method can effectively solve the problem of low recognition rate. The experiment shows that the prediction classification accuracy of SVM is 80%, the prediction classification accuracy of PSO - SVM is approximately 100%. The PSO-SVM algorithm can significantly improve the prediction accuracy compared with the traditional method, which provides criterion for the diagnosis and

early warning of coal spontaneous combustion. The classification identification of the dangerous degree of coal spontaneous combustion is implemented. It is of great significance and practical application value for improving the level of prevention and control technology of coal spontaneous combustion early hazards.

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Listener 10	Iwona Dudek UMR CNRS/MCC 3495 MAP 31 chemin Joseph Aiguier, France
Listener 11	Ahmed Abdalhadi Ministry of Health , Information Technology and Software Department, Sudan

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Xiuhai Cui	TD011	2	21
Yachao Shao	TD016	3	22
Yejin Jo	KS003	3	23
Yingjie Liu	KS004	3	23
Youness Madani	TD051	3	25
Zhichao Sha	TD031	3	24

One Day Tour in Paris, France

Paris is synonymous with all that is French. Known throughout the world as the "City of Light," Paris is celebrated for its beautiful city plan, its architecture, museums, bridges, cathedrals, parks, shopping, flea markets, sidewalk cafés, wide and luxurious boulevards, elegant cuisine, and numerous monuments. Once confined to an island in the middle of the Seine River, the Ile de la Cité, Paris, founded more than 2,000 years ago, quickly spread to both banks of the river—the rive droit (right bank) and the rive gauche (left bank). The right bank is known for being the commercial heart of the city while the left bank is home to the University of Paris and all that is intellectual and artsy. Paris has always been known to have the aura of romance and mystery and has been the setting for many novels and movies. A character in a play by Oscar Wilde said, "When good Americans die, they go to Paris."

Recommended Itinerary for Self-helped Tour

Time	Tour Itinerary
8:30am	Take the metro
9:00am-12:00am	Cathédrale Notre Dame de Paris, Shakespeare & Company
12:00am-13:30pm	Lunch
13:30pm-15:30pm	Musée Rodin, Musée d'Orsay
15:30pm-17:30pm	l'Arc de triomphe de l'Étoile
17:30pm-18:30pm	Avenue des Champs – Elysées
18:30pm	Back to the Hotel