ACM IMCOM 2015, January 8–10
Bali, Indonesia

Conference Program

모시는 글

안녕하십니까.

ACM Special Interest Group on Applied Computing (SIGAPP)가 후원하는 제 9회 IMCOM (International Conference on Ubiquitous Information Management and Communication)가 2015년 1월 8일(목)부터 10일(토)까지 세계최초로 지정된 청정 보호 구역과 최고급 시설이 함께 어우러진 휴식지인 인도네시아 발리 The Mulia 에서 개최됩니다.

스마트 디바이스의 빠른 발전과 폭넓은 활용으로 본격적 유비쿼터스 시대를 맞이 하고 있습니다. 다양한 IT 분야와 인터랙션 및 사용자 감성인지 기반의 교육기법 융합은 학교 교육의 새로운 길을 개척하며 고부가가치 산업을 창출하고 있습니다. ACM IMCOM 2015에서는 IoT 미래사회 발전에 기여하는 학술 교류 활동 및 전문 지식의 전파를 위해서 세계 최고 수준의 전문가들을 모시고 심도 있는 토론의 장을 마련하고자 합니다.

ACM IMCOM 2015는 SCOPUS와 EI에 등재되어 있어 국제학술대회로서의 높은 권위를 유지하고 있습니다. 금년에는 24개국, 국내외 100개 이상의 기관에서 총 403편의 논문을 제출하였고, 그 중 109편의 논문이 선정되었으며, 수준 높은 학술 교류를 위해 각각 두 분의 기조강연자와 초청강연자를 모셨습니다. 기조강연자로는 삼성전자 소프트웨어센터의 Vice-President 김지희 박사님, Computer Supported Cooperative Work(CSCW)와 Human-Computer Interaction(HCI) 분야의 권위자인 미국 Pennsylvania State University 의 Mary Beth Rosson 학장님을 초대하였습니다. 초청강연자로 East-West Neo Medical u-Lifecare IT Research Center의 Director 이승룡 교수님, IoT 분야에서 명망 높은 University of Indonesia의 Riri Fitri Sari 교수님을 초빙하여, 수준 높은 강연을 준비하였습니다. 열띤 토론과 학술정보의 교환은 물론 폭넓은 친교를 통해 성대한 만남의 장과 성공적인 학술회의가 이루어질 수 있도록 부디 적극 참석하시어 본 학술회의를 더욱 빛내 주시길 부탁드립니다. 또한 학술대회 행사 중 누사두아의 환상적인 해안선을 탐험하면서 고요하고 황홀한 풍광을 감상하거나 발리 최고급 호텔에서의 휴식을 통하여 컨퍼런스에서의 연구 성과공유는 물론 짧은 휴식을 겸한 재충전의 기회를 충분히 즐기시길 바랍니다.

대한민국 성균관대학교에서 시작된 작은 학술회의가 발전의 발전을 거듭하여 이제 매년 400편 이상의 논문이 제출되고 많은 분들이 아끼며 주목하는 세계수준의 학술회의로 성장하였습니다. 많은 분들께서 노력해 주심으로 인해 미국과 유럽 중심의 저명한 국제학술회의와 어깨를 견줄 정도로 발전하고 있음에 진심으로 감사 드립니다. 모두의 노력과 희생이 헛되지 않도록 동아시아지역에서 더욱 성실하게 성장하는 학술회의가 되기 위하여 운영진 모두가 최선의 노력을 다하겠습니다.

여러분의 가정에 항상 평화가 있으시길 기원합니다.

성균관대 정보통신대학장 신 동 렬

프로그램위원장 김 동 수
김 상 욱

ACM IMCOM 2015 학회장 이 석 한
Lajos Hanzo
Roslan Ismail

운영위원장 추 현 승

Contents

Message from General Co-Chairs

On behalf of the organizing committee, we welcome you to Bali, Indonesia, a world renowned resort place, for the 9th International Conference on Ubiquitous Information Management and Communication sponsored by ACM (ACM IMCOM 2015). We are very fortunate to have so many talented and well recognized people involved in the process of submitting papers, chairing sessions, reviewing papers, and organizing the conference.

This event is a product of the hardship of many committee members who have worked beyond deadlines to perfect it and performed the tedious task of advertisement in the best of manner. The conference is an amalgam of high-quality submissions brought forward by thorough research to meet the high standard required, as of in today's world.

Suk-Han Lee
Sungkyunkwan University, Korea

We are also pleased to let you know that, as its 9th event, ACM IMCOM 2015 is ready to serve you with ever heightened quality of technical and social programs. Not only you will find the technical sessions organized in 3 days interesting, informative and inspiring. But, you are sure being awarded with precious yet timely messages you can take home from the two keynote and two invited speeches by high-profile speakers.

That's not it! Meanwhile your stay here in Bali for your research can also be a great source of recreation. Bali! A paradise island of world famous travel destination with her sandy beaches, lush rice terraces, barren volcanic hillsides all providing a picturesque backdrop to her colorful, deeply spiritual and unique culture. Please, enjoy your stay by combining your conference activities with surfing, diving, experiencing cultural, historical and archaeological attractions, visiting shopping centers, spas, cafés, parks, and many more. We believe you will make unforgettable memories here.

Lajos Hanzo
University of Southampton, UK

Again, we would like to express our sincere gratitude to the committee members' and referees' contributions in this event. Our special thanks are due to Profs. Dongsoo S. Kim and Sang-Wook Kim: the Program Committee Co-Chairs, Profs. Amna Saad and Sang Tep Nam: the Local Arrangement Co-Chairs, Profs. Hyunseung Choo and Azliana Mohamed: the Treasurer and Operation Co-Chairs, and all other Chairs. Last but not least, we appreciate the support from international and domestic partnerships for this event, that is, the partnerships between Sungkyunkwan University, Korea, and Universiti Kuala Lumpur, Malaysia, as well as with Yonsei University, Ajou University and Chonnam National University, Korea.

We wish your participation in ACM IMCOM 2015 being a memorable one with both valuable technical exchanges and wonderful cultural and outdoor experiences in Bali.

Suk-Han Lee
Lajos Hanzo
Roslan Ismail
General Co-Chairs
ACM IMCOM 2015

Roslan Ismail
Universiti Kuala Lumpur, Malaysia

Message from Program Co-Chairs

Welcome to the 9th International Conference on Ubiquitous Information Management and Communication (IMCOM) 2015. Venue for this year's conference is a picturesque island of Bali in Indonesia. It is an island dominated by magnificent heritage, rich culture, spectacular white sand beaches and many other secluded and serene landscapes.

The ACM IMCOM 2015 aims to provide a platform for promoting new visionary approaches and interdisciplinary researches. New evolving technology and novel ideas on the horizon, in the areas of information management, communication technologies and their implications for social interaction, lays the firm foundation of the conference. The conference has served as the most v ital platforms for researchers and developers to exchange innovative ideas, information and significant research achievements; and provides a unique opportunity in which both technology and social science meet. Two main tracks for information processing management and communication will be held, covering both research and application works of information management, intelligent information processing, interaction management, networking /telecommunications, and social interaction.

This year's conference contains four outstanding speeches of two keynote speakers, and two invited speakers, 14 oral sessions, 4 poster sessions, and 2 short sessions. This year's review process was very competitive and rigorous, which resulted in a very strong and pivotal conference program. We received 417 submissions from many countries around the world. As a result of a neat, careful and strict review process, we selected 109 papers to be presented in the oral and poster sessions (28.77% acceptance rate). All of the accepted papers not only consists of novel ideas, new results, work in progress, and state-of-the-art techniques, but also provides us with the directions and stimulation for future research activities in the area of information management and communication technologies.

We are grateful to all of the authors, reviewers, and members of the program committee for their remarkable efforts and contributions. Without their most valued help and cooperation, the tedious task of submission handling and paper reviewing could not have been successfully accomplished. We also praise the valiant effort by session chairs who accepted our request to manage sessions of the conference.

We thank the General Co-Chairs, Suk-Han Lee, Lajos Hanzo, and Roslan Ismail for their great support and help. We also thank everyone who has contributed to the program – the authors, the reviewers, the program committee members and other organizing committee members for their splendid work.

We wish you to have a productive and enjoyable conference in Bali, Indonesia

Dongsoo S. Kim
Sang-Wook Kim
Program Co-Chairs
ACM IMCOM 2015
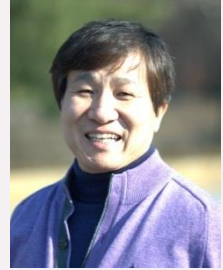
Dongsoo S. Kim
Indiana University,
USA
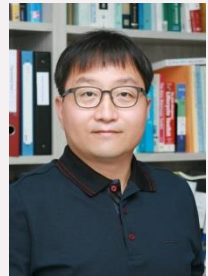
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Program at a Glance

| January 08, 2015 (Thursday) |

	CASABLANCA	PEONY
08:00-	Registration	
09:00-10:20	Session 1: **Ad-Hoc Networks**	Session 2: **Algorithms and Security**
10:20-11:10	Coffee Break & Poster Session 1: **Networks and Applications**	
11:10-12:30	Session 3: **Future Mobile Technology** with Invited Talk 1 **(Prof. Riri Fitri Sari)**	Session 4: **Distributed and Cloud Computing**
12:30-13:50	Lunch Break	
13:50-14:30	Keynote Speech 1: **Dr. Jihie Kim** (CASABLANCA)	
14:30-14:40	Opening Remarks (CASABLANCA)	
14:40-15:30	Coffee Break & Poster Session 2: **Interaction Systems**	
15:30-16:50	Session 5: **Resource Management and Architecture**	Session 6: **Context-awareness**
16:50-17:00	Short Break	
17:00-18:00	Short Presentation Session 1: **Reliability and Performance**	
18:00-18:30	Free Time	
18:30-18:45	Departure for Bubu Seafood & Indonesian Restaurant	
18:45-21:30	Welcome Reception (Bubu Seafood & Indonesian Restaurant)	

Program at a Glance

| January 09, 2015 (Friday) |

	CASABLANCA	PEONY
08:30-	Registration	
09:00-10:20	Session 7: **Cloud and Storage**	Session 8: **Information Retrieval and Recommendation**
10:20-11:10	Coffee Break & Poster Session 3: **Visualization**	
11:10-12:30	Session 9: **Healthcare and Big Data** with Invited Talk 2 **(Prof. Sungyong Lee)**	Session 10: **Computer Vision**
12:30-13:50	Lunch Break	
13:50-14:30	Keynote Speech 2: **Prof. Mary Beth Rosson** (CASABLANCA)	
14:30-15:20	Coffee Break & Poster Session 4: **Intelligent and Information Systems**	
15:20-16:40	Session 11: **Classification and Recognition**	Session 12: **Databases and Security**
16:40-16:50	Short Break	
16:50-17:50	Short Presentation Session 2: **Extract-Learn-Predict**	
17:50-19:00	Free Time	
19:00-	Conference Banquet (Eternity Chapel in The Muila Resort & Villas)	

| January 10, 2015 (Saturday) |

	CASABLANCA	PEONY
09:00-10:20	Program Committee Meeting	
10:20-10:40	Coffee Break	
10:40-12:00	Organizing Committee Meeting	

Keynote Speakers

Thursday, January 8, 2015, 13:50-14:30

Jihie Kim

Vice President
  Software R&D Center
  Samsung Electronics, Korea

Intelligence in Education

As the global leader of CE / IT industry, Samsung Electronics has been defining a smart device fueled future with a wide spectrum of products including smart phone and smart TV. Likewise, with the recent advances in devices enabled by wireless connectivity as well as embedded sensors and actuators, Samsung Electronics is uniquely poised to shape the new era of IoT where everyday objects surrounding us are connected to infuse intelligence in our environment, i.e. the ubiquitous intelligence. With the recent breakthroughs in intelligence technology, computers are now able to perform cognitive understanding of our knowledge. The resulting automation and simplification of knowledge workflows in our daily life and work has a potential to bring significant productivity enhancement. This next wave of ubiquitous intelligence is transforming our life and work in a profound way similar to how Gutenberg's printing press revolutionized knowledge expansion and how the ensuing industrial revolution gave rise to mass production. This keynote will broadly explore the current technical trends of ubiquitous intelligence. Throughout the keynote, the audience will be able to gain insights into the future of IoT applications which will radically simplify our life with the ubiquitous intelligence invisibly integrated to smart devices and connected things.

Friday, January 9, 2015, 13:50-14:30

Mary Beth Rosson

Professor and Interim Dean
  College of Information Sciences and Technology
  Pennsylvania State University, USA

The iSchool Vision for Interdisciplinary University Research and Education

The emergence of iSchools has been much discussed, with respect to an interdisciplinary vision for both research and education of undergraduate and graduate students. The Pennsylvania State University was one the first iSchools, launched in 1998 to meet the needs for workforce development of students who have the skills of information technology but also to research topics in real world interdisciplinary computing. In this talk, I will give a brief history of how and why this new realm of academic pursuits has emerged, illustrated throughout with examples drawn from education and research activities at Penn State and other iSchools. Reflecting on the past 15 years, I will also point to a set of continuing challenges and opportunities for interdisciplinary study that is founded on the integration of the information sciences, an increasingly ubiquitous technological substrate, and the broad and ambiguous implications of human individuals and organizations situated in real world activities.

Invited Speakers

Thursday, January 8, 2015, 11:10-11:50

Riri Fitri Sari

Professor
  Electrical Engineering Department
  Faculty of Engineering
CIO / Head
  Information System Development and Services
  University of Indonesia, Indonesia

IoT for Intelligent Transport System Vs Crowdsourcing with Waze

This talk will discuss the development of the Internet of Things (IoT) with the use of sensors and devices and their implementation for the Intelligent Transportation System (ITS). We will discuss the development of the Intelligent Transport System and the supporting communication technologies development. We will be exposed to the phenomenal mobile application that has been quickly adopted by 150 million travelers for them to take part in the crowdsourcing of traffic information, called Waze. Waze was started in 2005 as an application that takes an open data approach to traffic and navigation. The theme of people as sensors and mining social media for meaningful information will be elaborated for the topic of intelligent transport system.

Friday, January 9, 2015, 11:10-11:50

Sungyong Lee

Professor
  Department of Computer Engineering
Director
  East-West Neo Medicinal u-Lifecare IT Research Center
  Kyung Hee University, Korea

Can Big Data Open New Era of Personalized Healthcare?

With the evolution of bioinformatics in conjunction with technology, healthcare has grown from individual to global scale. Consequently, healthcare and IT professionals are utilizing technology to its best for providing better medical services and facilities. With this evolution, the surge of accumulating personal data from human activities and vital signs for better healthcare and wellbeing services has grown exponentially. Personal gadgets and electronics like smart phones and watches are well equipped with sensors acquiring various types of vital signs and activity information. Clinical data is complemented with this accumulated personal data for medical, well-being, and care-giving reasons. Personal data generated by human beings due to interactions with the environment is of various types and magnitude. To support this variety and volume of personal data, information technology is providing numerous platforms. However, these platforms are limited either by scope, magnitude or efficiency. A cumulative resolution that can handle this large volume of heterogeneous personal data with efficiency continues to be missing. To support large volumes, we have big data technologies, however these technologies need to be exploited further to handle heterogeneity with efficiency. Thus, a new era of personalized healthcare support information technology platform can be achieved. To embrace this evolution, we have proposed a comprehensive healthcare platform called "Mining Minds" that is based on a layered architecture and provides high quality personalized services. Mining minds platform takes benefit from the technology of big data with respect to the variety as well as volume, mapping of life events through sensory environment with reasoning and prediction to process the real-time data for providing personalized services. The platform will benefit the users in the form of personalized life quality improving services, Silver business services, proactive way to control the chronic disease services, and life care services.

Conference Program

Session 1: Ad-Hoc Networks
09:00-10:20, Thursday, January 08, 2015

Room: CASABLANCA

Session Chairs: Minho Jo, Vyacheslav V. Zalyubovskiy

1-1

Performance of Routing Protocols for VANETs: A Realistic Analysis Format

Bruno V. Coutinho (*Federal Technological University of Paraná, Brazil*),
Emilio C. G. Wille (*Federal Technological University of Paraná, Brazil*),
Hermes I. Del Monego (*Federal Technological University of Paraná, Brazil*)

1-2

Cluster Based Emergency Message Dissemination Scheme for Vehicular Ad Hoc Networks

Dongxu Jin (*Yonsei University, Korea*), Fei Shi (*Yonsei University, Korea*),
JooSeok Song (*Yonsei University, Korea*)

1-3

Contact-Based Routing in DTNs

Sujata Pal (*Indian Institute of Technology Kharagpur, India*),
Sudip Misra (*Indian Institute of Technology Kharagpur, India*)

1-4

Particle Filter Through Kullback-Leibler Distance Resampling with Adjusted Variance and Gradient Data for Wireless Biomedical Sensor Networks

Nga Ly-Tu (*International University-VNUHCM, Vietnam*),
Thuong Le-Tien (*International University-VNUHCM, Vietnam*),
Phuong Vo-Thi-Luu (*International University-VNUHCM, Vietnam*),
Linh Mai (*International University-VNUHCM, Vietnam*)

Session 2: Algorithms and Security
09:00-10:20, Thursday, January 08, 2015

Room: PEONY

Session Chairs: Choong Seon Hong, Megat Farez Azril Zuhairi

2-1

Password Security Enhancement Method by Flick Input with Considering the Floor Shake

Nozomi Takeuchi (*Tokyo University of Technology, Japan*),
Ryuya Uda (*Tokyo University of Technology, Japan*)

2-2

Design and Implementation of Flow Mobility based on D-PMIPv6

Keqiang Xie (*Ministry of Industry and Information Technology, China*),
Jun Lin (*Ministry of Industry and Information Technology, China*),
Lei Wu (*Ministry of Industry and Information Technology, China*),
Chunhui Yang (*Ministry of Industry and Information Technology, China*)

2-3

ReSet: A Protocol for Private Matching

Mahmood Ahmad (*Kyung Hee University, Korea*), Byeong Ho Kang (*University of Tasmania, Australia*),
Sungyoung Lee (*Kyung Hee University, Korea*)

2-4

Optimized Self-healing Framework for Software Defined Networks

Pankaj Thorat (*Sungkyunkwan University, Korea*), S.M Raza (*Sungkyunkwan University, Korea*),
Dongsoo S. Kim (*Indiana University-Purdue University, USA*),
Hyunseung Choo (*Sungkyunkwan University, Korea*)

Conference Program

Poster Session 1: Networks and Applications
10:20-11:10, Thursday, January 8, 2015

Session Chairs: Rita Zaharah Wan Chik , Minho Jo, Vyacheslav V. Zalyubovskiy

P1-1

RFID-enabled Supply Chain Detection using Clustering Algorithms

Teh Farahin Azahar (*Universiti Sains Malaysia, Malaysia*),
Manmeet Mahinderjit-Singh (*Universiti Sains Malaysia, Malaysia*),
Rohail Hassan (*Universiti Teknologi Petronas, Malaysia*)

P1-2

Lossless Graph Summarization Using Dense Subgraphs Discovery

Kifayat Ullah Khan *(Kyung Hee University, Korea)*, Waqas Nawaz *(Kyung Hee University, Korea)*,
Young-Koo Lee (*Kyung Hee University, Korea*)

P1-3

A Distributed Multi-Coloring Algorithm for Coexistence Mitigation in WBANs

Jieun Lee (*Kyung Hee University, Korea*), Beomseok Kim (*Kyung Hee University, Korea*),
Jinsung Cho (*Kyung Hee University, Korea*)

P1-4

An Iterative Sort Based Resource Scheduling for Long Distance Airborne Tactical Communication in Hub Network

Dong Hun Lee (*Sungkyunkwan University, Korea*), Kyunghoon Lee (*Sungkyunkwan University, Korea*),
Hyung-Jin Choi (*Sungkyunkwan University, Korea*)

P1-5

Operation Strategy for Energy Harvesting Wireless Sensor Networks

Vladimir Shakhov (*ICMMG SB RAS, Russia*), Denis A. Migov (*ICMMG SB RAS, Russia*),
Alexey S. Rodionov (*ICMMG SB RAS, Russia*)

P1-6

Restructuring Binomial Trees for Delay-Aware and Energy-Efficient Data Aggregation in Wireless Sensor Networks

Hyun Lee (*Sungkyunkwan University, Korea*),
Dongsoo S. Kim (*Indiana University-Purdue University, USA*),
Hyunseung Choo (*Sungkyunkwan University, Korea*)

P1-7

Application of Principal Component Analysis (PCA) in Taxonomy Research to Derive Plant Functional Types for Use in Dynamics Models

Yasmin Yahya (*Universiti Kuala Lumpur, Malaysia*), Roslan Ismail (*Universiti Kuala Lumpur, Malaysia*)

P1-8

Impact Minimization of Requirements Change in Software Project through Requirements Classification

Musarrat Hussain (*National University of Sciences and Technology, Pakistan*),
Zahoor Ahmad (*National University of Sciences and Technology, Pakistan*),
Abdur Rehman (*National University of Sciences and Technology, Pakistan*),
Dr. Usman Qamar (*National University of Sciences and Technology, Pakistan*),
Muhammad Afzal (*National University of Sciences and Technology, Pakistan*)

P1-9

A Goal-based Framework on Contextual Requirements Modelling for Agent-mediated Continual Quality Improvement (aCQI) in Curriculum Design

Shahrinaz Ismail (*Universiti Kuala Lumpur, Malaysia*),
Mohd Sharifuddin Ahmad (*Universiti Tenaga Nasional, Malaysia*)

P1-10

The Study of Gamification Application Architecture for Programming Language Course

Firas Layth Khaleel (*Universiti Kebangsaan Malaysia and Tikrit University, Malaysia*),
Noraidah Sahari Ashaari (*Universiti Kebangsaan Malaysia, Malaysia*),
Tengku Siti Meriam Tengku Wook (*Universiti Kebangsaan Malaysia, Malaysia*),
Amirah Ismail (*Universiti Kebangsaan Malaysia, Malaysia*)

Conference Program

| 11:10-12:30, Thursday, January 08, 2015 |

	Session 3: Future Mobile Technology 11:10-12:30, Thursday, January 08, 2015	**Room: CASABLANCA** Session Chairs: Dongsoo S. Kim, Shahrinaz Ismail

3-1	
3-2	**Invited Talk 1:** **IoT for Intelligent Transport System vs. Crowdsourcing with Waze** Prof. Riri Fitri Sari (*University of Indonesia, Indonesia*)
3-3	**Delay Bounded Spray and Wait in Delay Tolerant Networks** Ali Abbas (*Gyeongsang National University, Korea*), ChungJae Lee (*Gyeongsang National University, Korea*), Ki-Il Kim (*Gyeongsang National University, Korea*)
3-4	**Performance Analysis with Dynamic Beam Control using Millimeter-wave Band on 5G Mobile Communications** Jung Wan Shin (*Sungkyunkwan University, Korea*), Jun Suk Kim (*Sungkyunkwan University, Korea*), Syed Tariq Shah (*Sungkyunkwan University, Korea*), JungSook Bae (*Electronics and Telecommunications Research Institute, Korea*), Min Young Chung (*Sungkyunkwan University, Korea*)

	Session 4: Distributed and Cloud Computing 11:10-12:30, Thursday, January 08, 2015	**Room: PEONY** Session Chairs: Ryuya Uda, Alexey Rodionov

4-1	**KaaSP: Keying as a Service Provider for Small and Medium Enterprises Using Untrusted Cloud Services** William Aiken (*Pennsylvania State University, USA*), Jungwoo Ryoo (*Pennsylvania State University, USA*), Hyoungshick Kim (*Sungkyunkwan University, Korea*)
4-2	**The Problem of Integrity in RBAC-based Policies within Relational Databases: Synthesis and Problem Study** Faouzi Jaidi (*Digital Security Research Unit, Higher School of Communication of Tunis , Tunisia*), Faten Labbene Ayachi (*Digital Security Research Unit, Higher School of communication of Tunis , Tunisia*)
4-3	**Live Consolidation for Data Centers in Cloud Environment** Chuan Pham (*Kyung Hee University, Korea*), Nguyen H. Tran (*Kyung Hee University, Korea*), Cuong T. Do (*Kyung Hee University, Korea*), Choong Seon Hong (*Kyung Hee University, Korea*)
4-4	**Cloud-based Real-Time Location Tracking and Messaging System: A Child-Care Case Study** Cong-Thinh Huynh (*Kyung Hee University, Korea*), Huu-Quoc Nguyen (*Kyung Hee University, Korea*), Xuan-Qui Pham (*Kyung Hee University, Korea*), Tien-Dung Nguyen (*Kyung Hee University, Korea*), Eui-Nam Huh (*Kyung Hee University, Korea*)

Conference Program

Poster Session 2: Interaction Systems
14:40-15:30, Thursday, January 8, 2015

Room: CASABLANCA

Session Chairs: Hyoungshick Kim, Eui-Nam Huh, Shahrulniza Musa

P2-1 — **Constructing a Semantic Wiki for Living Cultural Heritage: Case Study of Korean Tea Culture**

Hayun Kim (*KAIST, Korea*), Juhee Suh (*KAIST, Korea*), Jaeyeon Ahn (*KAIST, Korea*), Jungwha Kim (*KAIST, Korea*)

P2-2 — **Information Credibility Assessment of Islamic and Quranic Information on the Web**

Rita Z Wan-Chik (*Universiti Kuala Lumpur, Malaysia*)

P2-3 — **Wayang Fighters: Preserving The Art of Wayang Kulit (Shadow Puppets) through Game Application**

Dahlan Bin Abdul Ghani (*Universiti Kuala Lumpur, Malaysia*)

P2-4 — **Learning Application for Malaysian Sign Language: Content Design, User Interface and Usability**

Shamsul Anuar Mokhtar:Kuala Lumpur (*Universiti Kuala Lumpur, Malaysia*), Siti Mashitah Shamsul Anuar (*Universiti Kuala Lumpur, Malaysia*)

P2-5 — **The Usage of Online Assessment Towards Self-Efficacy Readiness in Learning**

Farahwahida Mohd (*Universiti Kuala Lumpur, Malaysia*), Ezri Hielmi Che Daud (*Universiti Selangor, Malaysia*), Ibrahim Elzibair (*Universiti Selangor, Malaysia*)

P2-6 — **The Interactive Technological Devices: Play or Learn?**

Myzan Binti Noor (*Universiti Kuala Lumpur, Malaysia*)

P2-7 — **Automatic Number Plate Recognition on Electronic Toll Collection Systems for Vietnamese Conditions**

Tung Duy Ta (*Hanoi University of Science and Technology, Vietnam*), Duc Anh Le (*Hanoi University of Science and Technology, Vietnam*), Mai Thi Le (*Hanoi University of Science and Technology, Vietnam*), Toan Van Tran (*Hanoi University of Science and Technology, Vietnam*), Tuan Trong Do (*Hanoi University of Science and Technology, Vietnam*), Van Duc Nguyen (*Hanoi University of Science and Technology, Vietnam*), Chien Van Trinh (*Sungkyunkwan University, Korea*), Byeungwoo Jeon (*Sungkyunkwan University, Korea*)

P2-8 — **Effects of Text Input System on Learner's memory: Handwriting Versus Typing on Tablet PC**

Seyoung Park (*Sungkyunkwan University, Korea*), Donghee Shin (*Sungkyunkwan University, Korea*)

P2-9 — **Investigation of Fingertip Contact Area and Shape for Precise Target Selection on Multi-touch Screen**

Ahsanullah Abro (*Universiti Teknologi Petronas, Malaysia*), Suziah Sulaiman (*Universiti Teknologi Petronas, Malaysia*), Ahmad Kamil Mahmood (*Universiti Teknologi Petronas, Malaysia*), Muzafar Khan (*King Saud University, Saudi Arabia*)

P2-10 — **A Proposal of Preventive Measure of Pursuit using a Browser Fingerprint**

Shingo Yokoyama (*Tokyo University of Technology, Japan*), Ryuya Uda (*Tokyo University of Technology, Japan*)

Conference Program

| 15:30-16:50, Thursday, January 08, 2015 |

Session 5: Resource Management and Architecture
15:30-16:50, Thursday, January 08, 2015

Room: CASABLANCA

Session Chairs: Alexey Rodionov, Farahwahida Mohd

5-1	**New Filter Techniques to Improve the Accuracy of Available Bandwidth Measurement** Dung T. Tran (*Ho Chi Minh City University of Science, Vietnam*), Anh N. Nguyen (*Saigon Technology University, Vietnam*)
5-2	**Software Defined Networks based 5G Backhaul Architecture** Jose Costa-Requena (*Aalto University, Finland*), Vicent Ferrer Guasch (*Aalto University, Finland*), Jesus Llorente Santos (*Aalto University, Finland*)
5-3	**Throughput Improvement Method Exploiting Capture Effect in Densely Placed WLANs** KKenji Takahashi (*Hiroshima City University, Japan*), Hiroyasu Obata (*Hiroshima City University, Japan*), Tutomu Murase (*Laboratories NEC Corporation, Japan*), Kenji Ishida (*Hiroshima City University, Japan*)
5-4	**Reducing the TCP ACK Packet Backlog at the WLAN Access Point** Ai Hayakawa (*Ochanomizu University, Japan*), Saneyasu Yamaguchi (*Kogakuin University, Japan*), Masato Oguchi (*Ochanomizu University, Japan*)

Session 6: Context-awareness
15:30-16:50, Thursday, January 08, 2015

Room: PEONY

Session Chairs: Eui-Nam Huh, Jaeyoung Choi

6-1	**HTK Analysis of Text-based CAPTCHA using Phonemic Restoration Effect and Similar Pronunciation with an Asian Accent** Misako Goto (*Tokyo University of Technology, Japan*), Toru Shirato (*Tokyo University of Technology, Japan*), Ryuya Uda (*Tokyo University of Technology, Japan*)
6-2	**User-centered Design of a Context-aware Nurse Assistant (CANA) at Finnish Elderly Houses** Mitra Dirin (*Metropolia University of Applied Sciences, Finland*), Amir Dirin (*Haaga-Helia University of Applied Sciences, Finland*), Teemu H. Laine (*Ajou University, Korea*)
6-3	**Exploiting Synonymy to Measure Semantic Similarity of Sentences** Youhyun Shin (*Seoul National University, Korea*), Yeonchan Ahn (*Seoul National University, Korea*), Hyuntak Kim (*Samsung Electronics, Korea*), Sang-goo Lee (*Seoul National University, Korea*)
6-4	**Application of Location-based Sentiment Analysis using Twitter for Identifying Trends Towards Indian General Elections 2014** Omaima Almatrafi (*George Mason University, USA*), Suhem Parack (*George Mason University, USA*), Bravim Chavan (*George Mason University, USA*)

Conference Program

	Short Presentation 1: Reliability and Performance	Room: CASABLANCA
	17:00-18:00, Thursday, January 8, 2015	Session Chairs: Donghee Shin, Eiad Yafi

S1-1	**Speeding Up of Genetic Algorithm for Network Topology Optimization with Use of Cumulative Updating of Network Reliability**
	Kseniya A. Nechunaeva (*ICM&MG SB RAS, Russia*), Denis A. Migov (*ICM&MG SB RAS, Russia*)
S1-2	**Enhanced Centroid Localization of Wireless Sensor Nodes Using Linear and Neighbor Weighting Mechanisms**
	G.-A. Lusilao Zodi (*Polytechnic of Namibia, Namibia*), Gerhard P. Hancke (*University of Pretoria, South Africa*), Gerhard J. Hancke (*University of London, England*), Antoine B. Bigoro (*University of Western Cape, South Africa*)
S1-3	**Modeling Grouped Failures in Network Reliability Analysis**
	Stepan Khapugin (*Novosibirsk State University, Russia*), Alexey S. Rodionov (*ICM&MG SB RAS, Russia*)
S1-4	**Performance Analysis of Small-Cell Base Station with Cellular and WiFi RATs**
	Young Min Kwon (*Sungkyunkwan University, Korea*), Syed Tariq Shah (*Sungkyunkwan University, Korea*), Min Young Chung (*Sungkyunkwan University, Korea*), JaeSheung Shin (*Electronics and Telecommunications Research Institute, Korea*), Ae-Soon Park (*Electronics and Telecommunications Research Institute, Korea*)
S1-5	**Software Defined Optical Switching for Cloud Computing Transport Systems**
	Taras Maksymyuk (*Korea University, Korea*), Stepan Dumych (*Lviv Polytechnic National Univeristy, Ukraine*), Olena Krasko (*Lviv Polytechnic National Univeristy, Ukraine*), Minho Jo (*Korea University, Korea*)
S1-6	**Cooperative Caching for Adaptive Bit Rate Streaming in Content Delivery Networks**
	Phuong Luu Vo (*International University-VNUHCM, Vietnam*), Tuan-Anh Le (*University of Thudaumot, Vietnam*), Choong Seon Hong (*Kyung Hee University, Korea*), Seung Il Moon (*Kyung Hee University, Korea*), Sungwon Lee (*Kyung Hee University, Korea*), Nga Ly Tu (*International University-VNUHCM, Vietnam*)
S1-7	**A Novel Watermarking Scheme for Image Authentication in Social Networks**
	Thien Huynh-The (*Hochiminh City University of Technology and Education, Vietnam*), Oresti Banos (*Kyung Hee University, Korea*), Sungyoung Lee (*Kyung Hee University, Korea*), Yongik Yoon (*Sookmyung Women's University, Korea*), Thuong Le-Tien (*Hochiminh City University of Technology and Education, Vietnam*)
S1-8	**Correlated Subgraph Search for Multiple Query Graphs in Graph Streams**
	Kisung Park (*Kyung Hee University, Korea*), Yongkoo Han (*Kyung Hee University, Korea*), Tae ho Hur (*Kyung Hee University, Korea*), Young-Koo Lee (*Sungkyunkwan University, Korea*)
S1-9	**A New Hybrid Algorithm for Software Fault Localization**
	Jeongho Kim (*Sungkyunkwan University, Korea*), Jonghee Park (*Sungkyunkwan University, Korea*), Eunseok Lee (*Sungkyunkwan University, Korea*)
S1-10	**Implementation of High Speed Processor for Computing Convolution Sum for DSP Applications**
	P. Saha (*Dept. of ECE NIT Meghalaya, India*), D. Kumar (*Dept. of CSE NIT Meghalaya, India*), A. Sharma (*Dept. of C.A NIT Durgapur, India*)
S1-11	**Integer Division Technique for Signal Processing Applications**
	D. Kumar (*Dept. of CSE NIT Meghalaya, India*), A. Sharma (*Dept. of C.A NIT Durgapur, India*), P. saha(*Dept. of ECE NIT Meghalaya, India*)
S1-12	**Minimizing Consistency-Control Overhead with Rollback-Recovery for Storage Class Memory**
	Hyun Ku Lee (*Sungkyunkwan University, Korea*), Junghoon Kim (*Sungkyunkwan University, Korea*), Dong Hyun Kang (*Sungkyunkwan University, Korea*), Young Ik Eom (*Sungkyunkwan University, Korea*)

Conference Program

Session 7: Cloud and Storage	**Room: CASABLANCA**
09:00-10:20, Friday, January 9, 2015	
	Session Chairs: Zalizah Awang Long, Vyacheslav V. Zalyubovskiy

	AppA: Assistive Patient Monitoring Cloud Platform for Active Healthcare Applications
7-1	Venki Balasubramanian (*Federation University, Australia*), Andrew Stranieri (*Federation University, Australia*), Ranjit Kaur (*Federation University, Australia*)
	A Stakeholder-Oriented Assessment Index for Cloud Security Auditing
7-2	Syed Rizvi (*Pennsylvania State University, USA*), Jungwoo Ryoo (*Pennsylvania State University, USA*), John Kissell (*Pennsylvania State University, USA*), Bill Aiken (*Pennsylvania State University, USA*)
	A Highly Available Distributed Self-Scheduler for Exascale Computing
7-3	Atsuko Takefusa (*National Institute of Advanced Industrial Science and Technology, Japan*), Hidemoto Nakada (*National Institute of Advanced Industrial Science and Technology, Japan*), Tsutomu Ikegami (*National Institute of Advanced Industrial Science and Technology, Japan*), Yoshio Tanaka (*National Institute of Advanced Industrial Science and Technology, Japan*)
	Power-efficient and High-performance Block I/O Framework for Mobile Virtualization Systems
7-4	Kihong Lee (*Sungkyunkwan University, Korea*), Dongwoo Lee (*Sungkyunkwan University, Korea*), Young Ik Eom (*Sungkyunkwan University, Korea*)

Session 8: Information Retrieval and Recommendation	**Room: PEONY**
09:00-10:20, Friday, January 9, 2015	
	Session Chairs: Sang-Wook Kim, Eiad Yafi

8-1	**A New Approach for Approximate Text Search Using Genomic Short-Read Mapping Model**
	Sung-Hwan Kim (*Pusan National University, Korea*), Hwan-Gue Cho (*Pusan National University, Korea*)
8-2	**A Method for Finding Similes to Support Final Selection from Search Results**
	Taketoshi Ushiama (*Kyushu University, Japan*), Noboru Matsuo (*Kyushu University, Japan*)
8-3	**A Method for Recommending the Latest News Articles via MinHash and LSH**
	Won-Seok Hwang (*Hanyang University, Korea*), Jung Park (*Hanyang University, Korea*), Sang-Wook Kim (*Hanyang University, Korea*)
8-4	**Individualizing User Profile from Viewing Logs of Several People for TV Program Recommendation**
	Koichi Iguchi (*Osaka University, Japan*), Yoshinori Hijikata (*Osaka University, Japan*), Shogo Nishida (*Osaka University, Japan*)

Poster Session 3: Visualization
10:20-11:10, Friday, January 9, 2015

Session Chairs: Kangwoo Lee, Sang Yep Nam, Shamsul Anuar Mokhtar

P3-1	**Visual Saliency Detection via Hypergraph Based Re-ranking using Background Priors** Kyung-Wook Park (*Hanyang University, Korea*), Dong-Ho Lee (*Hanyang University, Korea*)
P3-2	**Discriminating Between Metal and Near-Metal Pixels in X-Ray CT Images** Hanjae Park (*Sungkyunkwan University, Korea*), Seho Bae (*Sungkyunkwan University, Korea*), Seongbeak Yoon(*Sungkyunkwan University, Korea*), Lei Li (*Sungkyunkwan University, Korea*), Jixuan Liu (*Sungkyunkwan University, Korea*), Juneho Yi (*North University of China, China*)
P3-3	**A New Visualization Method for Pairwise Time-Series Data with Random Walk Plot** Sang-Min Lee (*Pusan National University, Korea*), Jinkwan Park (*Pusan National University, Korea*), Daegeon Kwon (*Pusan National University, Korea*), Bokuk Park (*Pusan National University, Korea*), Hwan-Gue Cho (*Pusan National University, Korea*), DoHoon Lee (*Pusan National University, Korea*)
P3-4	**Optimizing on Real-time Fluid 3D Effect in Mobile Environment** Jue-min Lu (*Yonsei University, Korea*), Jin-chun Piao (*Yonsei University, Korea*), Shin-dug Kim (*Yonsei University, Korea*)
P3-5	**Salient Object Detection by Combining Multiple Color Clustering** Kang Han Oh (*Chonnam National University, Korea*), Soo Hyung Kim (*Chonnam National University, Korea*), Young Chul Kim (*Chonnam National University, Korea*)
P3-6	**Tensor Voting, Hough Transform and SVM Integrated in Chess Playing Robot** Tam Nguyen (*Saigon Technology University, Vietnam*), Quang Nhat Vo (*Chonnam National University, Korea*), YoungChul Kim (*Chonnam National University, Korea*), GueeSang Lee (*Chonnam National University, Korea*)
P3-7	**Saliency Detection by Tensor Voting based Gaussian Modeling** Huynh Trung Manh (*Chonnam National University, Korea*), Jungyeon Yeo (*Chonnam National University, Korea*), Gueesang Lee (*Chonnam National University, Korea*)
P3-8	**Text Detection in Scene Images Based on Feature Detection and Tensor Voting** Minh Hieu Nguyen (*Chonnam National University, Korea*), Hyunsu Choi (*Chonnam National University, Korea*), Gueesang Lee (*Chonnam National University, Korea*)
P3-9	**Unsupervised 3D Human Pose Recognition from a Single Depth Human Silhouette using a Geodesic Map and Kinematic Body Model** Hyun Jae Jeon (*Kyung Hee University, Korea*), Sang Beom Nam (*Kyung Hee University, Korea*), Sung Un Park (*Kyung Hee University, Korea*), Jun Hyuk Park (*Kyung Hee University, Korea*), Chang Kyoo Yoo (*Kyung Hee University, Korea*), Jeong Tai Kim (*Kyung Hee University, Korea*), Tae-Seong Kim (*Kyung Hee University, Korea*)
P3-10	**Combining Eye Fixation and Context-directed Saliency for Attentive Object Segmentation** Yubu Lee (*Sungkyunkwan University, Korea*), Kangwoo Lee (*Sungkyunkwan University, Korea*)

Conference Program

| 11:10-12:30, Friday, January 09, 2015 |

Session 9: Healthcare and Big Data	Room: CASABLANCA
11:10-12:30, Friday, January 9, 2015	Session Chairs: Sung Y. Shin, Toyohide Watanabe

9-1	**Invited Talk 2:**
9-2	**Can Big Data Open New Era of Personalized Healthcare?** Prof. Sungyong Lee (*Kyung Hee University, Korea*)
9-3	**KARE: A Hybrid Reasoning Approach for Promoting Active Lifestyle** Rahman Ali (*Kyung Hee University, Korea*), Muhammad Hameed Siddiqi (*Kyung Hee University, Korea*), Byeong Ho Kang (*University of Tasmania, Australia*), Sungyoung Lee *(Kyung Hee University, Korea)*
9-4	**A Proposal of Storage Power Control Method with Data Placement in an Environment using Many HDDs** Naho Iimura (*Ochanomizu University, Japan*), Norifumi Nishikawa (*Hitachi, Japan*), Miyuki Nakano (*Shibaura Institute of Technology, Japan*), Masato Oguchi (*Ochanomizu University, Japan*)

Session 10: Computer Vision	Room: PEONY
11:10-12:30, Friday, January 9, 2015	Session Chairs: Kangwoo Lee, Myzan Noor

10-1	**Illumination Invariant Color Segmentation Method based on Cluster Center Tree for Traffic Sign Detection** Byeongdae Woo (*Yonsei University, Korea*), Youngjung Uh (*Yonsei University, Korea*), Kwangyong Lim (*Yonsei University, Korea*), Yeongwoo Choi (*Sookmyung Women's University, Korea*), Hyeran Byun (*Yonsei University, Korea*)
10-2	**An Adaptive Evidence Structure for Bayesian Recognition of 3D Objects** Ahmed M.Naguib (*Sungkyunkwan University, Korea*), Sukhan Lee (*Sungkyunkwan University, Korea*)
10-3	**Formulation and Verification of the Body of Knowledge of New Discipline using WikiBOK** Taro Yabuki (*Chiba Institute of Technology, Japan*), Takeshi Morita (*Aoyama Gakuin University, Japan*), Yoshifumi Masunaga (*Ochanomizu University, Japan*)
10-4	**Video Search in Video Sharing Site Based on Public Video Lists** Yuki Nishi (*Kogakuin University Graduate School, Japan*), Saneyasu Yamaguchi (*Kogakuin University Graduate School, Japan*), Aki Kobayashi (*Kogakuin University Graduate School, Japan*)

Conference Program

| 14:30-15:20, Friday, January 09, 2015 |

Poster Session 4: Intelligent and Information Systems
14:30-15:20, Friday, January 9, 2015

Session Chairs: Masato Oguchi, Kangwoo Lee, Gueesang Lee

P4-1	**Hybrid Page Segmentation Using Multilevel Homogeneity Structure** Tuan Anh Tran (*Chonnam National University, Korea*), In-Seop Na (*Chonnam National University, Korea*), Soo-Hyung Kim (*Chonnam National University, Korea*)
P4-2	**A Study of Open-Source Data Mining Tools for Forecasting** Nurdatillah Hasim (*Universiti Kuala Lumpur, Malaysia*), Norhaidah Abu Haris (*Universiti Kuala Lumpur, Malaysia*)
P4-3	**Incremental Iteration Method for Fast PageRank Computation** Kyung Soo Kim (*Hanyang University, Korea*), Yong Suk Choi (*Hanyang University, Korea*)
P4-4	**Efficient Batch Processing of Proximity Queries with MapReduce** Giwoong Nam (*Sungkyunkwan University, Korea*), Dongeun Kim (*Sungkyunkwan University, Korea*), Jonghyeok Lee (*Sungkyunkwan University, Korea*), Hee Yong Youn (*Sungkyunkwan University, Korea*), Ung-Mo Kim (*Sungkyunkwan University, Korea*)
P4-5	**Mining Social Media Data: Discovering Contradictedness Quantities** Eiad Yafi (*Universiti Kuala Lumpur, Malaysia*), M. Zuhairi (*Universiti Kuala Lumpur, Malaysia*)
P4-6	**A Proposal of Smart Means to Retrieve Impressively-Referred Document-Page** Toyohide Watanabe (*Nagoya Industrial Science Research Institute, Japan*)
P4-7	**Development of Preservation Format and Archiving Tool for the Long-term Preservation of the Database** Seung-Jun Cha (*Electronics and Telecommunications Research Institute, Korea*), Yun Jeong Choi (*Agency for Defense Development, Korea*), Kyu-Chul Lee (*Chungnam National University, Korea*)
P4-8	**Comparison of Ordinary Least Square and Mixed-Effect Regression Models for Estimation of Tree Diameter Increment: A Case Study for Dipterocarpacea in Siem Reap, Cambodia** Suriyati Harun (*Universiti Kuala Lumpur, Malaysia*), Yasmin Yahya (*Universiti Kuala Lumpur, Malaysia*), Nurashikin Saaludin (*Universiti Kuala Lumpur, Malaysia*), Wan Suriyani Che Wan Ahmad (*Universiti Kuala Lumpur, Malaysia*)
P4-9	**Concept, Design and Implementation of Sensing as a Service Framework** Rischan Mafrur (*Chonnam National University, Korea*), I Gde Dharma Nugraha (*Chonnam National University, Korea*), Deokjai Choi (*Chonnam National University, Korea*)
P4-10	**Training of Interval Type-2 Fuzzy Logic System Using Extreme Learning Machine for Load Forecasting** Saima Hassan (*Universiti Teknologi Petronas, Malaysia*), Abbas Khosravi (*Deakin University, Australia*), Jafreezal Jaafar (*Universiti Teknologi Petronas, Malaysia*)

Conference Program

| 15:20-16:40, Friday, January 09, 2015 |

Session 11: Classification and Recognition	**Room: CASABLANCA**
15:20-16:40, Friday, January 9, 2015	
	Session Chairs: Masato Oguchi, Zalizah Awang Long

11-1 **Using Supervised Learning to Classify Authentic and Fake Online Reviews**

Snehasish Banerjee (*Nanyang Technological University, Singapore*),
Alton Y. K. Chua (*Nanyang Technological University, Singapore*),
Jung-Jae Kim (*Nanyang Technological University, Singapore*)

11-2 **Identifying Genomic Signatures of N-gram Nucleotide Sequences to Classify 15 Chromatin States of Broad Histone Track**

Kyung-Eun Lee *(Ewha Women University, Korea)*, Hyun-Seok Park (*Ewha Women University, Korea*)

11-3 **Mining Meaningful Outliers using Rough-Negative Association Algorithm in Heartdisease Dataset**

Azmi Ahmad (*University Kuala Lumpur, Malaysia*),
Faizah Shaari (*Politeknik Sultan Salahudin Abdul Aziz Shah, Malaysia*),
Zalizah Awang Long (*University Kuala Lumpur, Malaysia*)

11-4 **A new approach of Hidden Markov Model for time series forecasting**

Azunda Zahari (*Universiti Teknologi Petronas, Malaysia*),
Jafreezal Jaafar (*Universiti Teknologi Petronas, Malaysia*)

Session 12: Databases and Security	**Room: PEONY**
15:20-16:40, Friday, January 9, 2015	
	Session Chairs: Hyoungshick Kim, Rita Zaharah Wan Chik

12-1 **Mapping Expansion of Natural Language Entities to DBpedia's Components for Querying Linked Data**

Phong Nguyen Tran (*University of Information Technology, Vietnam*),
Dang Tuan Nguyen (*University of Information Technology, Vietnam*)

12-2 **StdSort: Efficient Pre-Processing for Faster Vector Similarity Join Using Standard Deviation**

Hyun Joon Kim (*Seoul National University, Korea*), Sang-goo Lee (*Seoul National University, Korea*)

12-3 **An Efficient Offline Grouping Proof Protocol Using Multiple Types of Tags**
Hyoungmin Ham (*Yonsei University, Korea*), Inhwan Kim (*Yonsei University, Korea*),
Jooseok Song (*Yonsei University, Korea*)

12-4 **Toward Constructing a Secure Online Examination System**

Abdul Wahid (*Kanazawa University, Japan*), Yasushi Sengoku (*Kanazawa Institute of Technology, Japan*),
Masahiro Mambo (*Kanazawa University, Japan*)

Conference Program

Short Presentation 2: Extract-Learn-Predict　　　　　　　　　　**Room: CASABLANCA**
16:50-17:50, Friday, January 9, 2015

Session Chairs: Young-Bae Ko, Shamsul Anuar Mokhtar

S2-1	**Domain Specific Commonsense Relation Extraction from Bag of Concepts Metadata** Jiyi Li (*Kyoto University, Japan*)
S2-2	**Task-oriented Access Model for Secure Data Sharing over Cloud** Mahmood Ahmad (*Kyung Hee University, Korea*), Zeeshan Pervez (*University of the West of Scotland, United Kingdom*), Sungyoung Lee (*Kyung Hee University, Korea*), Byeong Ho Kang (*University of Tasmania, Australia*)
S2-3	**An Efficient Method for Extracting Subtrees against Forest Query** Shafaet Ashraf (*University of Dhaka, Bangladesh*), Sheikh Muhammad Sarwar (*University of Dhaka, Bangladesh*), Md. Abeed Hassan (*University of Dhaka, Bangladesh*), Dr. Saifuddin Md. Tareeq (*University of Dhaka, Bangladesh*), Anna Fariha (*University of Dhaka, Bangladesh*)
S2-4	**Feature Extraction from Covariance by Using Kernel Method for Classifying Polysomnographys Data** Hong Quy Nguyen (*Chonnam National University, Korea*), Hyung-Jeong Yang (*Chonnam National University, Korea*), Thao Nguyen Thieu (*Chonnam National University, Korea*)
S2-5	**Roofline Measurement Application** Kyu-Yean Lee (*SungKyunKwan University, Korea*), Seong-Jin Cho (*SungKyunKwan University, Korea*), Seung-Hyun Yoon (*SungKyunKwan University, Korea*), Jae-Wook Jeon (*SungKyunKwan University, Korea*)
S2-6	**Adaptive Mechanism for GA-NN to Enhance Prediction Model** Faridah Sh Ismail (*Universiti Kuala Lumpur, Malaysia*), Nordin Abu Bakar (*Universiti Teknologi MARA, Malaysia*)
S2-7	**An Over-sampling Technique with Rejection for Imbalanced Class Learning** Jaedong Lee (*Sungkyunkwan University, Korea*), Noo-Ri Kim (*Sungkyunkwan University, Korea*), Jee-Hyong Lee (*Sungkyunkwan University, Korea*)
S2-8	**Model-based Reinforcement Learning Approach for Planning in Self-adaptive Software System** Han Nguyen Ho (*Sungkyunkwan University, Korea*), Eunseok Lee (*Sungkyunkwan University, Korea*)
S2-9	**Evaluating the Importance of Personal Information Attributes Using Graph Mining Technique** Ake Osothongs (*Graduate University for Advanced Studies, Japan*), Vorapong Suppakitpaisarn (*National Institute of Informatics, Japan*), Noboru Sonehara (*National Institute of Informatics, Japan*)
S2-10	**Group Recommendations: Approaches and Evaluation** Irfan Ali (*Hanyang University, Korea*), Sang-Wook Kim (*Hanyang University, Korea*)
S2-11	**Step Counting on Smartphones Using Advanced Zero-Crossing and Linear Regression** Jung Ryul Seo (*Ajou University, Korea*), Yutsai Chiang (*Ajou University, Korea*), Teemu H. Laine (*Ajou University, Korea*), Adil M. Khan (*Ajou University, Korea*)
S2-12	**Neighbor-assisted Data Delivery to Mobile Sink in Wireless Sensor Networks** Zeeshan Hameed Mir (*Qatar Mobility Innovations Center, Qatar*), Sajida Imran (*Ajou University, Korea*), Young-Bae Ko (*Ajou University, Korea*)
S2-13	**A Novel Message Broadcasting Strategy for Reliable Content Retrieval in Multi-hop Wireless Content Centric Networks** Dabin Kim (*Ajou University, Korea*), Young-Bae Ko (*Ajou University, Korea*)

Conference Program

09:00-10:20, Saturday, January 10, 2015	Room: CASABLANCA
	Chairs: Dongsoo S. Kim, Sang-Wook Kim

Open Discussion Time for All

Future ACM IMCOM Organization Meeting
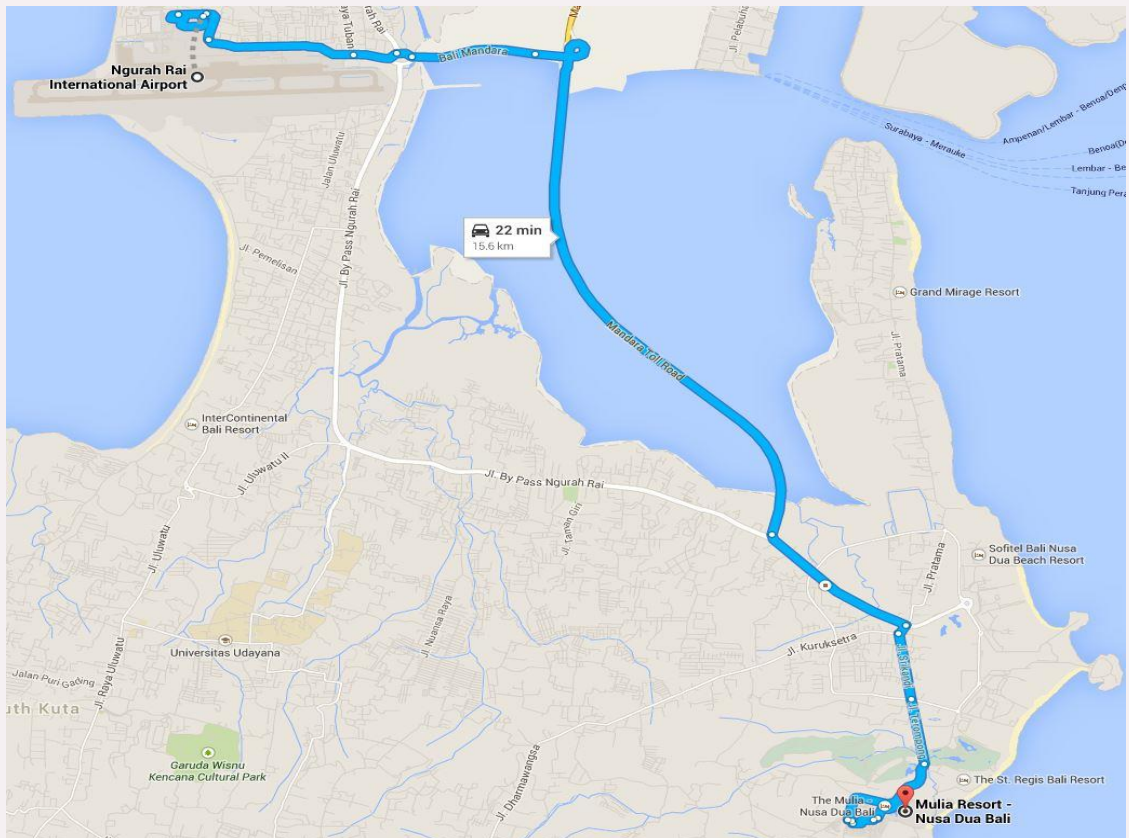
10:40-12:00, Saturday, January 10, 2015	Room: PEONY
	Chairs: Suk-Han Lee, Roslan Ismail

Organizing and Program Committee Meeting

ACM IMCOM Annual Business Meeting

Venue

Maps *- From the Ngurah Rai International Airport Bali to the conference venue -*

| From the Ngurah Rai International Airport Bali to The Mulia, Nusa Dua, Bali|

The Mulia resort, Nusa Dua, Bali is located approx 15 kilometers from Ngurah Rai International Airport, Bali. The journey from the airport to the resort takes **approximately 22 minutes by car**. From airport you can arrive at the resort by **taxi**.

❖ **Airport Transfer (Airport → The Mulia Resort)**
The Mulia Resort Nusa Dua Bali provides the one way airport transfer service for USD 25 (per vehicle)
To book the airport transfer service please contact the Mulia Resort Nusa Dua Bali
Tel: +62-361-3027777
Email: reservation@themulia.com, info@themulia.com

❖ **Taxi (Airport → The Mulia Resort)**
We recommend this way to go to the conference venue, as this is much cheaper. Plenty of public taxis are available at the airport: go to the ticketing booth, on the right side just after the exit from the airport, buy a fixed-fare ticket and a driver will be assigned to you trouble-free. However, the ticketing booth closes after the last flight arrival for the day and re-opens at 8 am. Beware being overcharged by the staff behind the counter.

Prepaid Taxi Fares from Ngurah Rai Airport to main Bali Destinations (Bali Airport Guide)
--Subject to change--
Kuta Rp 50,000
Legian Rp 55,000
Denpasar Rp 70,000 to 90,000
Nusa Dua Rp 95,000 to 110,000

You can flag down a Blue Bird Taxi from outside the airport gate (3-5 minutes walk from both terminals). Blue Bird Taxis are safe and reliable, and their metered fares are somewhat cheaper than the prepaid taxi fares**.**

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Welcome Reception

| Bubu Seafood & Indonesian Restaurant, Nusa, Bali |

*Address: Jl. Raya Nusa Dua Selatan, Peminge
Nusa Dua, Bali 80363, Indonesia
Tel: +62-361-776529   Fax: +62-361-772404
Website: www.rama-restaurants-bali.com
Email: sales@rama-restaurants-bali.com*

AGENDA

Date: Thursday, January 8, 2015
Food: Buffet (International and Local Indonesian Cuisines)
Venue: Ballroom, Bubu Seafood and Indonesian Restaurant
Attire: Smart Casual

18:30	Participants depart for BUBU Seafood and Indonesian Restaurant
18:45	Arrival of participants
19:00	Arrival of guests/VIPs
19:10	Welcoming Address by Prof. Dr. Roslan Ismail - General Co-Chair of ACM IMCOM 2015
19:15	Welcoming Address by Prof. DongRyeol Shin (Dean, Sungkyunkwan University, Korea)
19:20	Montage Presentation
19:30	Dinner begins – Panyembrama Dance – cendrawasih Dance – Exchange of Souvenirs – Manuk rawa/ Tamulilingan Dance – Joget Dance
21:30	Dinner ends

Conference Event

Welcome Reception Direction

| The Mulia Resort -to- Bubu Seafood Restaurant|

Distance: 1.8km
Walking Time: 23 minutes
Drive Time: 4 minutes
Means of Transport:
  Transport service will be provided

Conference Banquet

| The Mulia Resort Nusa Dua Bali |

Address: Jl. Raya Nusa Dua Selatan,
Kawasan Sawangan Nusa Dua 80363 Bali, Indonesia
Tel: +62-361-3027777   Fax: +62-361-3027888
Website: http://www.themulia.com/
Email: reservation@themulia.com

THE MULIA
B A L I

AGENDA
Date: Friday, January 9, 2015 **Food: Buffet (International Cuisine)** **Venue: Eternity Chapel, The Mulia Resort Nusa Dua Bali** **Attire: Smart Casual**

19:00	Arrival of participants
19:10	Start of Banquet with Greeting messages by Prof. Suk-Han Lee(General Co-Chairs in ACM IMCOM)
19:15	Greeting message by Prof. Sung Y. Shin – Professor & Graduate Coordinator of Computer Science South Dakota State University, USA and Chair of the Association of Computing Machinery, Special Interest Group on Applied Computing – ACM SIGAPP
19:20	Montage presentation
19:30	Achievement and best paper awards
19:40	Dinner begins
21:30	Dinner ends

Travel

Travel Information *- About Indonesia & Bali -*

| About Indonesia |

Indonesia is composed of seventeen thousand islands that stretch over five thousand miles along the equator. The great majority of the country's constituent islands are of negligible size, but it does hold--wholly or in part--several islands that are enormous, including Sumatra, Kalimantan, Sulawesi, and Java. The most populous of the Indonesian islands by far is Java, home to the sprawling capital city of Jakarta. Other notable islands include the exotic, popular resort island of Bali, Lombok, Catholic Flores, and Komodo, home of dragons. The world's largest archipelago, Indonesia's constellation of islands straddles the divide between the Asian and Australian continental plates. As a result, the islands offer a stunning variety of topographies and ecologies Mist-shrouded volcanoes and mountains, unexplored rain forests, thousands of miles of beaches, and endless offshore reefs support a dazzling abundance of wildlife, making Indonesia an ideal destination for adventure and eco-travel. There are two discernible seasons in Indonesia: the dry season, which extends from June to October, and the rainy season, which lasts from November to March. Both are hot. The coastal regions, however, are often cool, and in the mountains the air is often chilly.

| About Bali |

Bali, the famed Island of the Gods, with its varied landscape of hills and mountains, rugged coastlines and sandy beaches, lush rice terraces and barren volcanic hillsides all providing a picturesque backdrop to its colorful, deeply spiritual and unique culture, stakes a serious claim to be paradise on earth. Located near the eastern-most tip of Java island across the narrow Straits of Bali, it is peopled by the friendly Balinese who are more exposed to international tourists than many people in other parts of Indonesia. Bali is also graced by colorful temple festivals accompanied by spritely music and dance watched by the local populace, tourists, and the unseen gods from their dwelling places perched on majestic mountains. With world-class surfing and diving, a large number of cultural, historical and archaeological attractions, and an enormous range of accommodations, this is one of the world's most popular island destinations and one which consistently wins travel awards. Bali has something to offer a very broad market of visitors from young back-packers right through to the super-rich.

| About conference venue |

The Mulia is surrounded by beautiful tropical landscapes, The Mulia offers luxurious accommodation overlooking Nusa Dua Bay. Crystal clear water and stretches of white sandy beach of Nusa Dua makes Nusa Dua a perfect spot for luxurious resorts to which your exhausted bodies, after a Barong performance at Batubulan and a long climb of the steps of the Mother Temple Besakih, will want to rest. You can relax in the Mulia spa after a day of surfing or diving. Or you can tee off into the sunset, while watching the gentle waves come from the blue sea and caress the banks surrounding the luscious greens. Tranquil swimming pools under the coconut trees seem to be one with the distant blue sea. Art galleries and numerous shops surround them.

Travel Information *- General Information -*

| Banking Service |

Automatic Teller Machines are quite common, especially at shopping centers and bank branches. Most of them are connected to international banking networks, thus making it possible to look for machines that are affiliated with your own ATM network.
Most major banks have branches in the main tourist centers and provincial capitals. Banking hours are generally from 8 a.m. to 2 p.m. Monday to Friday and until 11 a.m. on Saturdays.

| Credit Card |

Visa, MasterCard, and American Express are accepted by most of the bigger businesses and at hotels. Many shops that accept credit cards add a 3%-5% service fee. Cash advances can be obtained in all major tourist resorts in Denpasar, Kuta, Sanur and Ubud. The amount signed for is in rupiah and the bill is then converted to your domestic currency.

| Currency |

The rupiah is the basic unit of money, normally abbreviated to Rp followed by the value. Denominations of Rp 50 and 100 are in the form of coins; Rp 100, 500 and 1,000 are in either coins or bills. Rp 5,000, 10,000, 20,000 and 50,000 are only available in bills. Values below Rp 50 are rarely seen except as change and are often substituted by sellers with sweets in lieu of change. In Bali, carry a handful of coins or Rp 100 notes and do not exchange large sums of money even if you plan to be there for a long time.

| Currency Exchange |

Foreign currency, whether in banknotes or traveler's checks, should be exchanged at major banks or authorized moneychangers. Exchange rates offered by the moneychangers are generally better than the banks; they also stay open longer and transactions are quicker. Look around for variable exchange rates advertised on boards along the footpaths or windows outside shops. Always ask about any commission imposed before the exchange as many moneychangers with better rates often charge a small commission.
You can get a cash advance on credit cards as well.

(Note) Due to the volatility of the rupiah, most mid-range hotels, all top-end hotels, restaurants, some tourist attractions, car rental agencies and tour companies list their prices in US dollars

| Electricity |

Most hotels use 220 volts 50 cycles and two-pronged plugs. However it is not uncommon to find some hotels using 110 volts, particularly in the provinces. Check before using an appliance. Some hotels supply adaptors on request.

| Language |

The official language is Bahasa Indonesia. Bahasa simply means language. In the major cities and in hotels English is widely understood. A few Indonesian words are highly appreciated, but not really necessary. In the outer regions such as Nusa Tenggara, English is not spoken widely. In the main destinations many Balinese speak German, French, Italian, Spanish and Japanese.

| Climate |

Bali has a tropical climate all year. The average temperature hovers around 30 degrees Celsius year-round. There are dry and rainy seasons - dry from April to September and rainy from October to March - but it can rain at any time of year and even during the rainy season, rain is likely to pass quickly. In general, May through August is the best time to visit Bali. At that time of year the climate is likely to be cooler and the rains lightest.
Around the coast, sea breezes cool the heat coming off the land and as you move inland you also move up, so the altitude works to keep things cool. It can get very chilly in the highlands and a warm sweater is a good idea in mountain villages like Kintamani or Bedugul.

| Office Hours |

Business Offices:
Monday - Friday 8 or 9 a.m. to 4 or 5 p.m.
Some offices are open half day on Saturday

Government Offices:
Monday - Thursday 8 a.m. to 3 p.m.
Friday 8 a.m. to 11.30 a.m.
Saturday 8 a.m. to 2 p.m.

| Time Zone |

Indonesia stretches across three time zones:
Western Indonesia (Sumatra, Java, West and Central Kalimantan) + 7 GMT
Central Indonesia (Bali, South and East Kalimantan, Sula wesi, Nusa Teng gara) + 8 GMT
East Indonesia (Maluku and Irian Jaya) , +9 GMT

Travel

Travel Information *- General Information -*

| Tipping & Tax |

Major hotels: Many hotels services and some hotels are inclusive of 21% tax. Tipping is not mandatory, but if the service is satisfactory, a tip of 5% to 10% of the bill would be appropriate. Taxi drivers tipping is not mandatory, however, many passengers round up their bill. For a car-hire drivers, the basic Rp 20,000 tip is deemed appropriate if the service is satisfactory, but not mandatory. Airport porters service ranges from Rp.5,000-Rp.10,000

| Emergency Numbers |

Ambulance: 118
Fire: 113
Police: 110
Search & Rescue: 115, 751, 111
Red Cross: 226465

| Medical Service |

The services of Health and Safety at Siem Reap constitute preventive, old age, and emergency health care. Some of the major hospitals in Siem Reap are:

BIMC HOSPITAL
Jl. Bypass Ngurah Rai No. 100X
Kuta 80361
Tel: (+62-361) 761 263 - Fax: (+62-361) 764 345

Kawasan BTDC Blok D
Nusa Dua 80363
Tel: (+62-361) 3000 911
E-mail: info@bimcbali.com
website: www.bimcbali.com

BALI MED HOSPITAL
Jl. Mahendradatta no 57X
Denpasar
Tel: (+62-361) 484748
Fax: (+62-361) 484748

| Dress Code |

Dress is generally informal in Indonesia. Light fabrics are recommended due to the warm, humid climate. For men, a jacket and tie is considered appropriate when making official visits. The simplest is to follow local custom by wearing a long-sleeve batik shirt. Indonesians are accustomed to shaking hands upon meeting and greeting. It is recommended to bring a sweater or light jacket for travel to mountainous areas. Shorts and beachwear are not considered appropriate except at sports facilities and on the beaches and never appropriate for walking around town or visiting temples and other places of worship.

| Shopping |

Indonesian batiks are world famous. Gold and silverware are reasonably priced. Woodcarvings and handicrafts also make attractive gifts. Indonesia is well known for good buys in clothing, leather products, electronics, etc. Bargaining is customary in small shops and markets, the art of which is to start at the half of the asking price and slowly increase your offer until a compromise is reached. Remember, it helps to smile while bargaining.

In addition to the many open markets and street stalls, there are numerous western-style department stores and shopping centres in Denpasar, Kuta-Legian, Sanur and Nusa Dua that offer a range of clothing, shoes, leather goods, sports gear and toys. The service is generally good, and the value of the rupiah ensures excellent prices. In these types of venues, such as department stores, prices are fixed. Balinese arts and crafts are the most popular purchases but you can also find good value on clothing, music, musical instruments and watches.

| To/From the Airport |

It is recommended to use the airport taxi service, located to the left of the terminal exit. This service charges a fixed price, while other taxi's fares will have to be bargained. The prices for airport taxis are on display outside the terminal buildings.

If you are travelling on a restricted budget, you can flag down a Blue Bird Taxi from outside the airport or stand in the corner of the International Departure side near the ATM and catch them once they drop off a passenger. Blue Bird Taxis are safe and reliable. Flagging down another taxi company (other than the licensed airport taxis), is not recommended.

| Public Transport |

The main forms of public transport on Bali are the cheap buses, minibuses and bemos (a general term for any vehicle that is used as a public transport which is normally a minibus or van with a row of low seats on each side). They normally run on somewhat set routes within or between towns. Having your own transport can be arranged; there are cars, motorbikes, and bicycles for rent. Tourist shuttle buses that run between major tourist centres are more expensive than public transport but are definitely more comfortable and convenient.

Charter Vans or Mini Buses can be rented at a reasonable cost including petrol and a driver/guide. These are great for parties of 6 or more..

Travel Information *- Foods -*

| Betutu|

Betutu is a Balinese dish of steamed or roasted chicken or duck. This highly seasoned and spiced dish is a popular dish in Bali and Lombok. An even spicier version is available using extra-spicy sauce made from uncooked (raw) onion slices mixed with red chili peppers and coconut oil. This traditional dish is very popular nowadays.

| Nasi campur |

Nasi campur, accompanied by small portions of a number of other dishes, which includes various meats, vegetables, peanuts, eggs and fried-shrimp krupuk.[1] Depending on which areas it originate, a nasi campur vendor might served several different side dishes, including vegetables, fish and meats. It is a staple meal of the Southeast Asian countries, and popular especially in Indonesia, Malaysia, Singapore, Brunei, and Southern Thailand.

| Urap |

Urap is a salad dish of steamed vegetables mixed with seasoned and spiced grated coconut for dressing. It is commonly found in Indonesian cuisine, more precisely Javanese cuisine. Urap can be consumed on its own as a salad for vegetarian meals or as a side dish. Urap is usually found as a prerequisite side dish of Javanese tumpeng, a cone shaped rice mound surrounded with assorted dishes, as well as part of a nasi kuning dish.

| Bakso |

Bakso is an Indonesian meatball and is commonly made from beef with a small quantity of tapioca flour, however bakso can also be made from other ingredients, such as chicken, fish, or shrimp. Bakso are usually served in a bowl of beef broth, with yellow noodles, bihun, salted vegetables, tofu, egg, Chinese green cabbage, bean sprout, siomay or steamed meat dumpling, and crisp wonton, sprinkled with fried shallots and celery.

| Babi Guling |

Babi Guling is a pig roast in Indonesia. In Bali babi guling usually served with lawar and steamed rice, it is popular dish in Balinese restaurant and warungs. In Batak people tradition, babi guling is a prerequisite in wedding offering for the bride family. In Papua, pigs and yams are roasted in heated stones filled in the hole dug on the ground and covered with leaves, this cooking method is called bakar batu, and it is an important cultural and social event among Papuan people.

| Bubur ketan hitam |

Bubur ketan hitam is an Indonesian sweet dessert made from black glutinous rice porridge with coconut milk and palm sugar or cane sugar. The black glutinous rice are boiled until soft, and sugar and coconut milk are added. It is often describes as "black glutinous rice pudding". It is often served as dessert or snack, for supper, for tea time, anytime of the day.

Foods

Travel Information *- Foods -*

| Nasi Goreng |

Nasi goreng, literally meaning "fried rice" in Indonesian and Malay, can refer simply to fried pre-cooked rice, a meal including stir fried rice in small amount of cooking oil or margarine, typically spiced with kecap manis (sweet soy sauce), shallot, garlic, tamarind and chilli and accompanied by other ingredients, particularly egg, chicken and prawns. There is also another kind of nasi goreng which is made with ikan asin (salted dried fish) which is also popular across Indonesia.

| Sate |

Sate is a dish of seasoned, skewered and grilled meat, served with a sauce. Satay may consist of diced or sliced chicken, goat, mutton, beef, pork, fish, other meats, or tofu; the more authentic version uses skewers from the midrib of the coconut palm frond, although bamboo skewers are often used. These are grilled or barbecued over a wood or charcoal fire, then served with various spicy seasonings.

| Gado-gado |

Gado-gado in Indonesian literary means "mix-mix" since it is made of rich mixture of vegetables such as potatoes, string beans, bean sprouts, spinach, chayote, bitter gourd, corn and cabbage, with tofu, tempeh and hard-boiled eggs, all mixed in peanut sauce dressing, sometimes also topped with krupuk and sprinkles of fried shallots. Gado-gado is different from lotek atah or karedok which uses raw vegetables. Another similar dish is the Javanese pecel.

| Rendang |

Rendang is a spicy meat dish which originated from the Minangkabau ethnic group of Indonesia, and is now commonly served across the country. One of the characteristic foods of Minangkabau culture, it is served at ceremonial occasions and to honour guests.[3] Rendang is also served among the Malay community in Malaysia, and is also in Singapore and Brunei. Rendang is traditionally prepared by the Minangkabau community during festive occasions such as traditional ceremonies, wedding feasts, and Hari Raya (Eid al-Fitr).

| Mie Ayam |

Bakmi ayam is an Indonesian dish of yellow wheat noodle (bakmi in Indonesian) topped with diced chicken meat (ayam), seasoned with soy sauce, and usually served with a chicken broth soup. The name is shortened to mie ayam or mi ayam. Bakmi ayam is a popular Chinese Indonesian dish and common in Indonesian cities. It can be served in a restaurant or from a hawker's trolley.

| Lawar |

Lawar is a dish created from a mixture of vegetables, coconut and minced meat mixed with rich herbs and spices, originating from Bali, Indonesia. This dish is easily found in restaurants and warungs in Bali. Some types of lawar usually add the meat blood mixed with spices to add taste. Lawar spoils easily should be consumed immediately; it is usually good for half a day before going bad.

Travel Information *- Tourist Attractions -*

| Denpasar |

Denpasar is a bustling, multi-cultural city and although it can seem a little intimidating the first time you visit, just do not believe those travel guides which say it has nothing to offer. Denpasar is bristling with temples, palaces and museums and its occupants are outstandingly friendly. You will be off the beaten tourist track here, so bring lots of time for a chat with the locals and a decent map of town. You can see many of the mains sights comfortably on foot.

| Candidasa |

The stretch of coastline from Manggis through **Candidasa town** itself and east to Bugbug is normally just referred to as Candidasa. This is a laid back and very relaxing area of Bali with a wide range of accommodation options. Many visitors, especially Europeans, combine a stay in the hotspots of south Bali with a more relaxed break here.

| Nusa Lembongan |

Nusa Lembongan is approximately 8 square kilometres in size and is one of three neighbouring islands, the others being much larger Nusa Penida and tiny Nusa Ceningan (also covered by this article). The three islands are separated from Bali by the Badung Strait.

| Jimbaran |

Jimbaran is just south of the airport and Kuta. This was formerly a real backwater of south Bali -just a tiny fishing village with a daily market. That all started to change in the 1980s though and Jimbaran is now home to several world class five-star beach resorts plus a number of more moderate mid-market hotels. There is little in the way of budget accommodation though.

| Lovina |

Lovina is a relatively new name coined in the 1950s by a local Buleleng Regency official with a good eye for future tourism-based development. It essentially consists of seven traditional villages which all merge into one on a ten kilometre stretch of the main road which hugs the north coast west of Singaraja: Temukus, Kalibukbuk, Anturan, Pemaron, Tukad Mungga, Banyualit and Kaliasem. Kalibukuk is the main hub of this area and is often thought of as "Lovina town centre".

Tourist Attractions

Travel Information *- Tourist Attractions -*

| Ubud |

Perched among the terraced rice fields that climb up the foothills of Bali's central mountains, **Ubud** is considered the island's cultural heart. Ubud is home to the island's most important museums, including the Neka Art Museum with its expansive collection of Balinese paintings. There are dance and music performances every day throughout the city as well as numerous art galleries and craft shops to explore.

| Tanah Lot |

Situated on a large rock, **Tanah Lot** is one of the most famous Hindu temples in Bali. It has been a part of Balinese mythology for centuries. The temple is one of 7 sea temples, each within eyesight of the next, to form a chain along the south-western coast of Bali. Tanah Lot is one of the most popular places to visit in Bali and the whole area can be very busy, especially in the late afternoons and before sunset.

| Seminyak |

Located on the southwestern coast of Bali, **Seminyak** is a small town that has been encompassed by the city of Kuta's expansive growth. Despite its proximity to Kuta, Seminyak is one of the island's most exclusive vacation destinations. From its high-end boutiques and five-star restaurants to its luxury hotels and spas, the city attract attracts well-heeled travelers from around the world.

| Pura Besakih |

Located on the slopes of Gunung Agung, Bali's highest mountain, **Pura Besakih** is considered the most important of the "kayangan jagat," the nine directional temples built to protect the island from evil. The temple was named after the dragon god that believers say lives within the depths of the mountain. The temple complex includes more than 28 structures built on seven ascending terraces.

| Kuta Beach |

Once a sleepy fishing village, **Kuta** gained fame as a great spot for surfing during the 1970s, and it has remained Bali's premier vacation destination ever since. Located on the southern point of the island in the village of Kelurahan, the long, broad stretch of sand one of the best-maintained and most scenic beaches on the island. Known for its active nightlife, the southern section of the beach is usually crowded, day or night.

Travel Information *- Arts & Museums -*

| Arma Museum|

A Museum of world renown, providing the highest quality events in rapport with Indonesian and Balinese arts and culture, with highly trained staff who work together to reach the organisation's goals while providing excellent service to people from all cultures.

| The Neka Art Museum , The Development Of Painting |

The Neka Art Museum was opened in 1982 and is named after a Balinese teacher Suteja Neka who collected paintings as a means of artistic documentation. Nowadays the museum has a great selection of works from many famous Balinese artists and expats who have lived here and influenced local artists.

| Blanco Renaissance Museum in Bali |

Blanco Renaissance Museum is an unofficial landmark in Ubud, the house and studio of the late flamboyant Philippine-born maestro, Don Antonio Blanco. Located on a hilltop overlooking the lush valley of Campuhan, it houses paintings, collages and illustrated poetry, together with lithographic artworks of his favourite subject: nude Balinese women.

| Ewa Oceanic Sepik Art Gallery |

Ewa Oceanic Sepik Art Gallery is a collection of tribal art from the Sepik region of Papua New Guinea. The gallery is a family owned space which has evolved over 30 years of explorations along the Sepik River.
The diversity of artistic styles created throughout the Sepik region is immense. With every item created for use within the village's ceremonial and daily practices, the art itself provides a glimpse into these practices and belief systems of each village, which remain unchanged over time.

| Hansen Art Gallery |

HANSEN Thiam Sun was born in 1960 in Toho, a beautiful and pristine hamlet in West Kalimantan (Borneo). The purity and beauty of the environment in which he grew up stimulated young HANSEN to become deeply interest in visual arts, especially drawing, a hobby that became deeply embedded in his life even in adulthood. He is an Indonesian Contemporary artist.

Restaurants

Travel Information - *Restaurants-*

| CasCades Restaurant |

CasCades is an awards winning restaurant located 5 minutes drive from the centre of Ubud Bali, perfected placed on the ridge overlooking the luscious Valley of the Kings. It provides a dining experience with striking tropical valley views alongside meticulously crafted food and wine menus. As a fine dining restaurant with European and Asian influences, CasCades produces bold and unique dishes that are perfect for a celebratory or romantic dinner.

Address: Jln. Lanyahan, Br Nagi, Ubud, Bali 80571 Indonesia.
Tel: (+62) 361 972111
Homepage: http://www.cascadesbali.com/en/index.php

| KORI Restaurant & Bar|

KORI Restaurant & Bar is one of most popular restaurant in the middle of Legian - KUTA Which has a truly authentic Balinese setting. Through our experiences as the leading establishment for outstanding International cuisine and Asian flavors for over a decade, KORI Restaurant & Bar is deemed as one of the prized destination in KUTA.

Address: Jalan Legian, Poppies Lane II, Kuta, Bali- 80361, Indonesia
Tel : (+62) 361 758605
Homepage: http://korirestaurant.co.id/about-us.php

| Sarong Restaurant |

Sarong offers guests two dining pavilions to enjoy a leisurely dinner, an outdoor lounge and an informal dining area adjacent to the bar, which is a great meeting place to taste superb cocktails and world-class wines. The restaurant is open evenings only and seats 142 in total.It is advisable to advance book although walk-in guests may be accommodated in the lounge area that blends perfectly with the sumptuously decorated open-air environment.

Address: Jl. Petitenget No, 19 x Kerobokan, Bali 80361 Indonesia
Tel: (+62) 361 4737809
Homepage: http://sarongbali.com/restaurant/

| LocaVore Restaurant |

Locavore broke grounds in early 2013 as an enterprise by two five-star resort chefs, Eelke Plasmeijer and Ray Adriansyah, who shared the same vision. They set out to passionately create a unique dining scene that serves modern, contemporary European cuisine using locally grown and seasonal ingredients. Inspired by a trending healthy dining concept in the west, they named their restaurant Locavore or 'eat local' and were determined to serve as catalysts between local producers and discriminating diners. Now it is regarded best restaurant in Ubud

Address: Jalan Dewi Sita, Ubud, Bali, Indonesia
Tel: (+62) 361 977733
Homepage: http://www.restaurantlocavore.com/
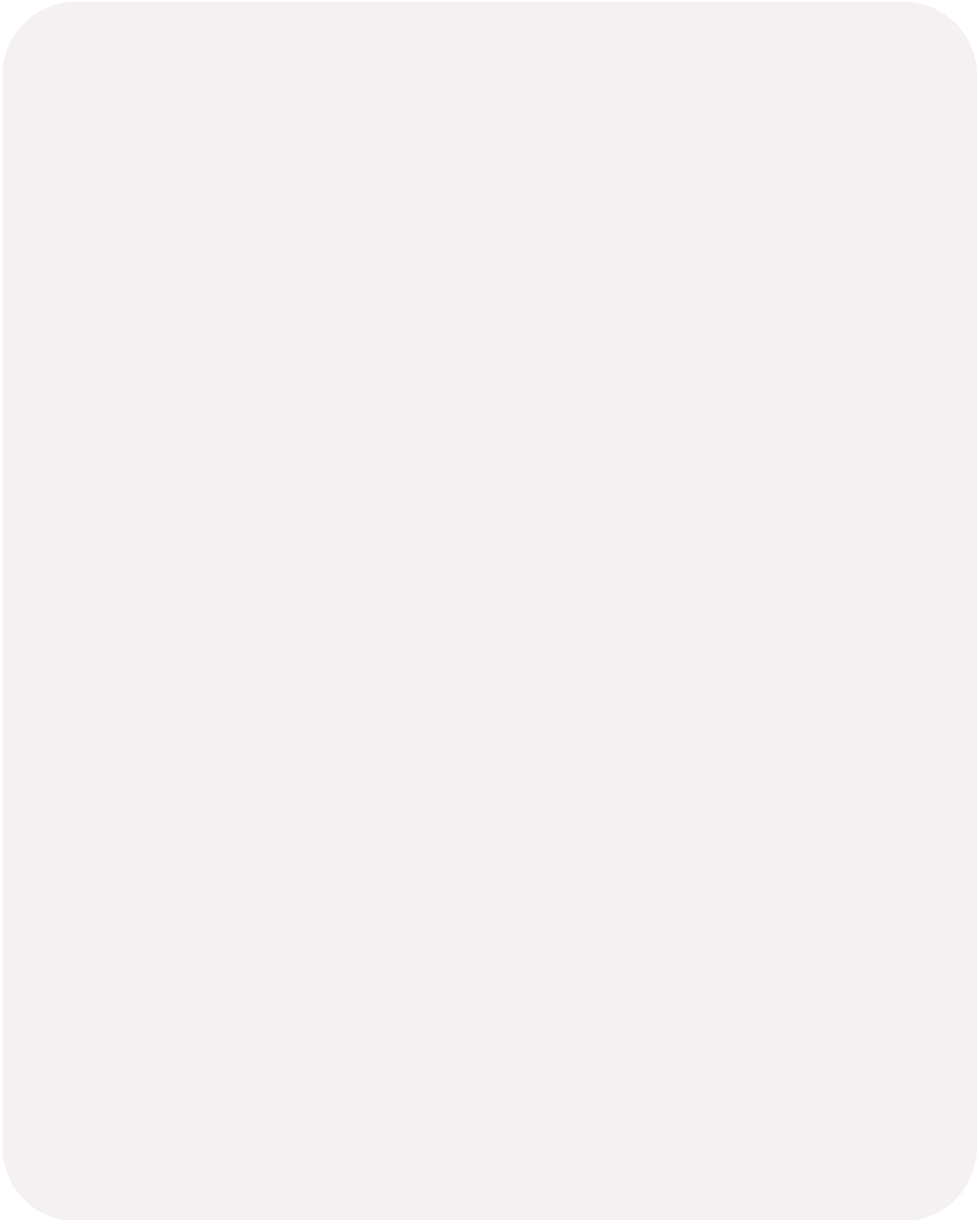
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SmartTV 2.0 Software Platform

Convergence Research Institute

Department of Interaction Science

Research Center for Basic Fundamental System Software Technologies

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Fire Brigade	113
Ambulance & Hospital	118
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International SOS Medical	(+62 - 361 - 710505)
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Visa Customer Assistance	0361-765162
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