Conference Program

3-5 April 2017

Japan

10 YEARS OF ACIIDS CONFERENCES

Organized by Wrocław University of Science and Technology in cooperation with:

CIIDS 2009	Quang Binh University	**Dong Hoi, Vietnam** 1-3 April 2009	
CIIDS 2010	Hue University	**Hue City, Vietnam** 24-26 March 2010	
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CIIDS 2016	Vietnam-Korea Friendship Information Technology College	**Da Nang, Vietnam** 14-16 March 2016	
CIIDS 2017	Japan Advanced Institute of Science and Technology	**Kanazawa, Japan** 3-5 April 2017	
CIIDS 2018	Quang Binh University	**Dong Hoi, Vietnam** 19-21 March 2018	

Conference Program

April 3-5, 2017
www.aciids.pwr.edu.pl

Japan

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Welcome message from
GENERAL CHAIRS

On behalf the Steering, Program, and Organizing Committees we are pleased to welcome you to the 9th Asian Conference on Intelligent Information and Database Systems 2017 (ACIIDS 2017).

Japan Advanced Institute of Science and Technology (JAIST) is delighted and honored to host the 89th Asian Conference on Intelligent Information and Database Systems 2017 (ACIIDS 2017). We are enormously proud to be part of the prestigious community of Intelligent Information and Database System in Asia.

This conference aims to provide:
- an internationally respected forum for scientific research into new trends and challenges of intelligent information and database systems.
- an excellent opportunity for researchers to discuss modern approaches and techniques for knowledge engineering and semantic web, social networks and recommender systems, text processing and information retrieval, intelligent database systems, intelligent information systems, decision support & control systems, machine learning and data mining, computer vision techniques.

We hope you find this conference both interesting and stimulating and that you enjoy meeting up with old friends and making new contacts. We anticipate also this conference will prove to be an inspiring and truly transformative experience for you. We look forward to an interesting debate.

Welcome to the 9th Asian Conference on Intelligent Information and Database Systems 2017 in Kanazawa.

With best wishes,

Ngoc Thanh Nguyen
Wroclaw University of Science and Technology, Poland

Satoshi Tojo
Japan Advanced Institute of Science and Technology, Japan

Welcome message from
PROGRAM CHAIRS

It is our pleasure to present you the 9th Asian Conference on Intelligent Information and Database System co-organized by Japan Advanced Institute of Science and Technology (Japan) and Wrocław University of Science and Technology (Poland) in co-operation with IEEE SMC Technical Committee on Computational Collective Intelligence, Quang Binh University, Vietnam, Yeungnam University, South Korea, Bina Nusantara University, Indonesia, Universiti Teknologi Malaysia, and the University of Newcastle, Australia, under the honorary patronage of the Deputy Prime Minister of the Republic of Poland and Minister of Science and Higher Education, which is held in Kanazawa during April 3-5, 2017.

We received about 400 papers from 46 countries from all over the world. Each paper was peer reviewed by at least two members of the International Program Committee. Only 152 papers with the highest quality were selected for oral presentation and publication in the two volumes of Springer's LNCS/LNAI series (Vol. 10191, 10192). Due to high quality 47 additional papers were accepted for poster presentations and were published in the form of chapters of the scientific monograph issued in Studies in Computational Intelligence by Springer Verlag. The conference will take two and a half days. It was divided into 26 thematic sessions

We would like to express our sincere thanks to the honorary chairs: Prof. Testsuo Asano (President of JAIST, Japan) and Prof. Cezary Madryas (Rector of Wrocław University of Science and Technology, Poland) for their support. We also thank sincerely Mr. Jarosław Gowin, the Deputy Prime Minister of the Republic of Poland and Minister of Science and Higher Education for his honorary patronage over the conference.

Our special thanks go to the members of the International Program Committee for their valuable efforts in the review process, which helped us to guarantee the highest quality of the selected papers for the conference. We cordially thank the organizers and chairs of special sessions who essentially contributed to the success of the conference. We wish to thank the members of the Organizing Committee for their very substantial work.

We would also like to express our thanks to the keynote speakers: Prof. Tu-Bao Ho (Japan), Prof. Bernhard Pfahringer (New Zealand), Prof. Edward Szczerbicki (Australia), and Prof. Hideyuki Takagi (Japan) for preparing talks of world-class standard.

We cordially thank all the authors for their valuable contributions and all the other participants of this conference. The conference would not have been possible without them.

Kind regards,
Tzung-Pei Hong, National University of Kaohsiung, Taiwan
Le Minh Nguyen, Japan Advanced Institute of Science and Technology, Japan
Bogdan Trawiński, Wroclaw University of Science and Technology, Poland
ACIIDS 2017 Program Chairs

Welcome message from
Deputy Prime Minister of Poland

DEPUTY PRIME MINISTER
MINISTER OF SCIENCE
AND HIGHER EDUCATION
Jarosław Gowin

Ladies and gentlemen,
Distinguished participants of the ACIIDS 2017 conference,

I am pleased to extend my warmest greetings to all participants of the ACIIDS 2017 conference. This is the ninth annual event which has become an internationally respected forum for scientific research in the area of technologies and applications of intelligent information and database systems. It provides opportunity to exchange ideas and best practices, discover new research directions and fields of application and broaden the network of colleagues and research partners.

I would like to congratulate the Wrocław University of Science and Technology and Japan Advanced Institute of Science and Technology for organizing this important event which fosters relevant international scientific cooperation. I am deeply convinced that the ACIIDS conferences facilitate the development of collaborative research projects as well as educational programs among universities across the world.

I should like to sincerely thank both General Chairs of the conference, Professor Satoshi Tojo from Japan Advanced Institute of Science and Technology and Professor Ngoc Thanh Nguyen from Wrocław University of Science and Technology, for coordinating this event. I would also like to express my warmest thanks to keynote speakers, chairs and members of program and organizing committees as well as all the authors for their valuable contributions.

On behalf of the Government of the Republic of Poland, I wish you all a productive and enjoyable conference.

With deepest respect,

Jarosław Gowin
Deputy Prime Minister of the Republic of Poland,
Minister of Science and Higher Education

Professor Tu-Bao Ho
School of Knowledge Science
Japan Advanced Institute of Science and
Technology (JAIST), Japan
Homepage: http://www.jaist.ac.jp/~bao/

Title: **Implementation and exploitation of electronic medical records for health care and medical research**

Abstract
Electronic medical records (EMRs) are digital versions of medical records traditionally written on papers. It is widely believed that EMRs is leading to an evolutional shift in health care and medical research. However, implementation and exploitation of EMRs are still in its infance. This talk addresses current issues on EMRs, especially the analysis of EMR clinical text, as a typical problem of big data analytics. A number of examples on using speech recognition for EMRs, EMR-based medical diagnosis or drug post-market study will be illustrated.

Biodata
Tu-Bao Ho received his PhD degree from Pierre and Marie Curie University in Paris, France, in 1987. He is currently a Professor at School of Knowledge Science, Japan Advanced Institute of Science and Technology. His interests include machine learning, data mining, and computational biomedicine.

KEYNOTE SPEAKER

Professor Bernhard Pfahringer
Department of Computer Science
University of Waikato, New Zealand
Homepage:
http://www.cs.waikato.ac.nz/~bernhard

Title: **Current challenges in stream mining**

Abstract
Stream mining is concerned with online learning from non-stationary data sources. I will argue that many, if not all, big data mining endeavours are instances of stream mining. This presentation will highlight issues in stream mining, including proper evaluation, temporal dependencies, label acquisition, and preprocessing, and will present some preliminary solutions for these challenges.

Biodata
Bernhard Pfahringer received his PhD degree from the University of Technology in Vienna, Austria, in 1995. He is currently a Professor with the Department of Computer Science at the University of Waikato in New Zealand. His interests span a range of data mining and machine learning sub-fields, with a focus on streaming, randomization, and complex data.

KEYNOTE SPEAKER

Professor Edward Szczerbicki
School of Engineering
The University of Newcastle, Australia
Homepage:
https://www.newcastle.edu.au/profile/edward-szczerbicki

Title:
Bio-inspired Decisional DNA for Machines and Other Systems

Abstract

Quo vadis, Intelligent Systems? Where are you going? This presentation aims at providing some answers to this fascinating question addressing emerging challenges related to the concept of semantically enhanced knowledge-based society and cyber-physical systems which command the fourth industrial revolution named Industry 4.0. The fourth industrial revolution is a powerful concept, which promotes the computerization of traditional enterprises and their ecosystems towards fully networked logistics and 24/7 available resources handling scheme through the use of Cyber Physical Systems (CPS). The goal is a future smart factory, which is characterized by adaptability, resource efficiency, and ergonomics as well as by the integration of customers and business partners in business and value processes.

We contribute to this brave and fascinating new world which is coming by introducing the concept of networked virtuality that involves three broad levels of Virtual Engineering Object (VEO), Virtual Engineering Process (VEP), and Virtual Engineering Factory (VEF). These levels embody experienced based knowledge representation of engineering objects, processes, and factories respectively. The core of this concept is the powerful knowledge representation technique of Set of experience knowledge structure (SOEKS) and Decisional DNA (DDNA).

The keynote introduces the background notion of SOEKS and DDNA with some of its most recent applications first, and then presents the current state of our evolving concept of VEO, VEP, and VEF.

Biodata

Prof. Edward Szczerbicki has had very extensive experience in the area of intelligent systems development over an uninterrupted 35 year period, 25 years of which he spent in the top systems research centers in the USA, UK, Germany, and Australia. He has published 300+ refereed papers which attracted close to 1500 citations over the last 10 years. His DSc degree (1993) and the Title of Professor (2006) were gained in the area of information science for his international published contributions. The research of prof. Szczerbicki contributes significantly to the area of smart information use in modeling and development of intelligent systems. Prof Szczerbicki's academic experience includes ongoing positions with Gdansk University of Technology, Gdansk, Poland; Strathclyde University, Glasgow, Scotland; The University of Iowa, Iowa City, USA; University of California, Berkeley, USA; and The University of Newcastle, Newcastle Australia.

KEYNOTE SPEAKER

Professor Hideyuki Takagi
Faculty of Design
Kyushu University, Japan
Homepage:
http://www.design.kyushu-u.ac.jp/~takagi/

Title: **How Should Computational Intelligence Cooperate with Human Intelligence?**

Abstract
Classical artificial intelligence and computational intelligence have tried to make computational models of human functions and realized human capabilities. It is a reasonable approach for analyzing human functions, but it may not be the best to make powerful systems for solving tasks. Computer has better capabilities than human ones, and at the same time, human and biological being have better capabilities exceeding those of computational models. One of better and practical solutions to make powerful systems is to use both capabilities by making them cooperate rather than just try to increase the performance of computational models.
Firstly, we emphasize how the mentioned cooperation is important. Then, we introduce how interactive evolutionary computation (IEC) works on the tasks which performance is hardly measured or even cannot be measured. These tasks include several topics in ACIIDS 2017 such as designing robot motions and game strategies, data mining, software engineering, and others. Thirdly, we explain that this cooperation can analyze human characteristics and obtain new knowledge on human.

Biodata
Prof. Takagi worked for the Central Research Laboratories of Matsushita Electric Industrial Co., Ltd. from April, 1981 to March, 1995. He was a Visiting Industrial Fellow of the University of California at Berkeley from October, 1991 to September, 1993, hosted by Prof. Lotfi A. Zadeh of Computer Science Division. He worked for Kyushu Institute of Design since April, 1995 as an Associate Professor. He belonged to Department of Acoustic Design in 1995 - 1999 and Department of Art and Information Design in 1999 - 2003. Kyushu Institute of Design and Kyushu University merged into one on October 1, 2003, and his affiliation name changed to Faculty of Design, Kyushu University. Now, he is a Professor of Kyushu University. He was a Vice President of IEEE System, Man, and Cybernetics Society (SMCS) during 2006-2007 and 2008-2009. He chaired SMC Technical Committee on Soft Computing during 1998-2004 and from 2008 until today. He has served as an Associate Editor of IEEE Transactions on Cybernetics (previous Systems, Man and Cybernetics, Part B) since 2001. Prof. Takagi is interested in Computational Intelligence such as neural networks, fuzzy systems, evolutionary computations, and other so-called Soft Computing technologies, especially cooperation of these technologies. Currently, his interest focuses on Interactive Evolutionary Computation which aims the cooperation of human and evolutionary computation. He is also interested in signal processing and human-machine interface..

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ACIIDS 2017, Kanazawa, Japan
3-5 April 2017
Conference Program at a Glance

Day 1. Monday, 3 April 2017	
08:00 – 09:00	**Registration**
09:00 – 09:30	**Opening Ceremony** Chair: Prof. Satoshi Tojo, JAIST, Japan Location: Zuisyo Ball Room
09:30 – 10:30	**Keynote Lecture 1** Speaker: Prof. Bernhard Pfahringer, New Zealand Topic: Current challenges in stream mining Chair: Prof. Ngoc Thanh Nguyen, Poland Location: Zuisyo Ball Room
10:30 – 10:40	**Photo Session (group photo)** Location: Zuisyo Ball Room
10:30 – 11:00	**Coffee break** Location: in the conference rooms
11:00 – 12:00	**Keynote Lecture 2** Speaker: Prof. Hideyuki Takagi, Japan Topic: How Should Computational Intelligence Cooperate with Human Intelligence? Chair: Prof. Tzung-Pei Hong, Taiwan Location: Zuisyo Ball Room

Time				
12:00 – 13:00	**Lunch (lunch boxes)** Location: in the conference rooms			
13:00 – 14:00	**Poster Session 1** Chairs: Prof. Kiyoaki Shirai, Japan and Dr. Dariusz Król, Poland Location: Zuisyo Ball Room			

Parallel Sessions 1

Time	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
14:00 – 15:00	SOC-1 Social Networks and Recommender Systems-1 Chair: Prof. Geun Sik Jo, Korea	MIN-1 Machine Learning and Data Mining-1 Chair: Prof. Ali Selamat, Malaysia	TXT-1 Natural Language and Text Processing-1 Chair: Prof. Jaroslav Pokorny, Czech Republic	ICxS-1 Intelligent and Contextual Systems-1 Chair: Dr. Maciej Huk, Poland

Time				
15:00 – 15:30	**Coffee break** Location: in the conference rooms			

Parallel Sessions 2

Time	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
15:30 – 16:50	KNO-1 Knowledge Engineering and Semantic Web-1 Chair: Prof. Marcin Paprzycki, Poland	DBS Intelligent Database Systems Chair: Prof. Suphamit Chittayasothorn, Thailand	TXT-2 Natural Language and Text Processing-2 Chair: Prof. Rey-Long Liu, Taiwan	ICxS-2 Intelligent and Contextual Systems-2 Chair: Prof. Goutam Chakraborty, Japan

	Parallel Sessions 3			
	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
16:50– 18:30	KNO-2 Knowledge Engineering and Semantic Web-2 Chair: Prof. Zbigniew Huzar, Poland	IIS Intelligent Information Systems Chair: Prof. Jacek Mercik, Poland	VIS Computer Vision Techniques Chair: Prof. Kang-Hyun Jo, Korea	IDAIoT Intelligent Data Analysis, Applications and Technologies for Internet of Things Chair: Prof. Mong-Fong Horng, Taiwan
20:00 – 22:00	**Welcome Reception** Location: Zuisyo Ball Room			

Day 2. Tuesday, 4 April 2017

	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
Parallel Sessions 4				
08:00 – 09:10	ISAIS Intelligent Systems and Algorithms in Information Sciences Chairs: Prof. Eva Volna, Dr. Martin Kotyrba, Czech Republic	ARPTA Automated Reasoning and Proving Techniques with Applications in Intelligent Systems Chair: Prof. Jingde Cheng, Japan	MMAML Multiple Model Approach to Machine Learning Chair: Prof. Bogdan Trawiński, Poland	ITiB-1 IT in Biomedicine-1 Chair: Dr. Orcan Alpar, Czech Republic
Parallel Sessions 5				
09:10 – 10:30	ADS Applications of Data Science Chair: Prof. Fulufhelo V. Nelwamondo, South Africa	AIAE Artificial Intelligence Applications for E-services Chair: Prof. Chen-Shu Wang, Taiwan	TPATIT Technological Perspective of Agile Transformation in IT organizations Chair: Prof. Cezary Orłowski, Poland	SDABBI Scalable Data Analysis in Bioinformatics and Biomedical Informatics Chair: Dr. Dariusz Mrozek, Poland
10:30 – 11:00	**Coffee break** Location: in the conference rooms			
11:00 – 12:00	**Keynote Lecture 3** Speaker: Prof. Edward Szczerbicki, Australia Topic: Bio-inspired Decisional DNA for machines and other systems Chair: Prof. Dosam Hwang, Korea Location: Zuisyo Ball Room			

12:00 – 13:00	**Lunch (lunch boxes)** Location: in the conference rooms
13:00 – 14:00	**Poster Session 2** Chairs: Prof. Kiyoaki Shirai, Japan and Dr. Dariusz Król, Poland Location: Zuisyo Ball Room
14:00 – 15:00	**Keynote Lecture 4** Speaker: Prof. Tu-Bao Ho, Japan Topic: Semantic Term Weighting for Clinical Texts Chair: Prof. Le Minh Nguyen, JAIST, Japan Location: Zuisyo Ball Room
15:30 – 15:30	**Coffee break** Location: in the conference rooms

Parallel Sessions 6

15:30 – 16:30	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
	SOC-2 Social Networks and Recommender Systems-2 Chair: Prof. Tetsuji Kuboyama, Japan	MIN-2 Machine Learning and Data Mining-2 Chair: Prof. Marzena Kryszkiewicz, Poland	DEC-1 Decision Support & Control Systems -1 Chair: Prof. Hoai An Le Thi, France	InBRAIN Intelligent Algorithms and Brain Functions Chair: Prof. Andrzej Przybyszewski, Poland

	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
Parallel Sessions 7				
16:30 – 17:30	SOC-3 Social Networks and Recommender Systems-3 Chair: Prof. Halina Kwaśnicka, Poland	MIN-3 Machine Learning and Data Mining-3 Chair: Prof. Mark Last, Israel	DEC-2 Decision Support & Control Systems -2 Chair: Prof. Frantisek Capkovic, Slovakia	ADMTA-1 Advanced Data Mining Techniques and Applications-1 Chair: Prof. Tzung-Pei Hong, Taiwan
Parallel Sessions 8				
17:30 – 18:30	SOC-4 Social Networks and Recommender Systems-4 Chair: Dr. Ford Lumban Gaol, Indonesia	MIN-4 Machine Learning and Data Mining-4 Chair: Prof. Leszek Kotulski, Poland	MDSIS Mathematics of Decision Sciences and Information Science Chair: Prof. Takashi Matsuhisa, Japan	ADMTA-2 Advanced Data Mining Techniques and Applications-2 Chair: Prof. Ja-Hwung Su, Taiwan
20:00 – 22:30	**Banquet Dinner** Location: Zuisyo Ball Room			

Day 3. Wednesday, 5 April 2017

Parallel Sessions 9

	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
08:00 – 09:00	MAMLAKE 2017 Modern Applications of Machine Learning for Actionable Knowledge Extraction Chair: Dr. Waseem Ahmad, New Zealand	ITSC-1 Intelligent Technologies in the Smart Cities in the 21st Century-1 Chair: Prof. Cezary Orłowski, Poland	IVMLS-1 Analysis of Image, Video and Motion Data in Life Sciences-1 Chair: Dr. Marek Kulbacki, Poland	ICVSA-1 Intelligent Computer Vision Systems and Applications -1 Chair: Dr. Dariusz Frejlichowski, Poland

Parallel Sessions 10

	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
09:00 – 10:00	CISTEF-1 Collective Intelligence for Service Innovation, Technology Opportunity, E-Learning and Fuzzy Intelligent Systems-1 Chair: Dr. Kuo-Sui Lin, Taiwan	ITSC-2 Intelligent Technologies in the Smart Cities in the 21st Century-2 Chair: Prof. Cezary Orłowski, Poland	IVMLS-2 Analysis of Image, Video and Motion Data in Life Sciences-2 Chair: Dr. Marek Kulbacki, Poland	ICVSA -2 Intelligent Computer Vision Systems and Applications -2 Chair: Dr. Dariusz Frejlichowski, Poland
10:00 – 10:30	**Coffee break** Location: in the conference rooms			

Parallel Sessions 11

	Zuisyo Ball Room	Mokuren Room	Kuchinashi Room	Kikyo Room
10:30– 11:30	CISTEF-2 Collective Intelligence for Service Innovation, Technology Opportunity, E-Learning and Fuzzy Intelligent Systems-2 Chair: Dr. Kuo-Sui Lin, Taiwan	ITiB-2 IT in Biomedicine-2 Chair: Prof. Ondrej Krejcar, Czech Republic	IVMLS-3 Analysis of Image, Video and Motion Data in Life Sciences-3 Chair: Dr. Marek Kulbacki, Poland	ICVSA -3 Intelligent Computer Vision Systems and Applications -3 Chair: Dr. Dariusz Frejlichowski, Poland
11:30 – 12:15	**Panel Discussion** Topic: Current Trends in Intelligent and Database Systems Moderator: Prof. Ngoc Thanh Nguyen, Poland Location: Zuisyo Ball Room			
12:15 – 12:30	**Closing Ceremony** (including best paper, best poster, and best special session award ceremony) Chair: Prof. Satoshi Tojo, JAIST, Japan Location: Zuisyo Ball Room			
12:30 – 13:30	**Lunch (lunch boxes)** Location: in the conference rooms			
14:00 – 20:00	**Excursion to Kanazawa**			

Day 1. Monday, 3 April 2017	
Parallel Sessions 1	
14:00 – 15:00 Monday 3 April 2017	**SOC-1: Social Networks and Recommender Systems-1** **Chair: Prof. Geun Sik Jo, Korea** Location: Zuisyo Ball Room
	A Consensus-based Method to Enhance a Recommendation System for Research Collaboration *Dinh Tuyen Hoang, Van Cuong Tran, Tuong Tri Nguyen, Ngoc Thanh Nguyen and Dosam Hwang* **International Business Matching using Word Embedding** *Didier Gohourou, Daiki Kurita, Kazuhiro Kuwabara and Hung-Hsuan Huang* **Complex networks in the epidemic modelling** *Tomasz Biegus and Halina Kwasnicka*
14:00 – 15:00 Monday 3 April 2017	**MIN-1: Machine Learning and Data Mining-1** **Chair: Prof. Ali Selamat, Malaysia** Location: Mokuren Room
	Analyzing performance of high frequency currency rates prediction model using linear kernel SVR on historical data *Chanakya Serjam and Akito Sakurai* **Authenticating ANN-NAR and ANN-NARMA Models Utilizing Bootstrap Techniques** *Nor Azura Md. Ghani, Saadi Ahmad Kamaruddin, Norazan Mohamed Ramli and Ali Selamat* **Metaheuristic Optimization on Conventional Freeman Chain Code Extraction Algorithm for Handwritten Character Recognition** *Muhammad Arif Mohamad, Habibollah Haron and Haswadi Hasan*
14:00 – 15:00 Monday 3 April 2017	**TXT-1: Natural Language and Text Processing-1** **Chair: Prof. Jaroslav Pokorny, Czech Republic** Location: Kuchinashi Room
	Identification of Biomedical Articles with Highly Related Core Contents *Rey-Long Liu*

	A Method for User Profile Learning in Document Retrieval System using Bayesian Network *Bernadetta Maleszka* **Simple and accurate method for parallel web pages detection** *Alibi Jangeldin and Zhenisbek Assylbekov*

14:00 – 15:00 Monday 3 April 2017	**ICxS-1: Intelligent and Contextual Systems-1** **Chair: Dr. Maciej Huk, Poland** Location: Kikyo Room
	Selecting Important Features Related to Efficacy of Mobile Advertisements *Goutam Chakraborty, Liu Chun Cheng, Long-Sheng Chen and Cedric Bornand* **A Comparative Study of Evolutionary Algorithms with a New Penalty based Fitness Function for Feature Subset Selection** *Atsushi Kawamura and Basabi Chakraborty* **A Context-Aware Fitness Function based on Feature Selection for Evolutionary Learning of Characteristic Graph Patterns** *Fumiya Tokuhara, Tetsuhiro Miyahara, Tetsuji Kuboyama, Yusuke Suzuki and Tomoyuki Uchida*

Day 1. Monday, 3 April 2017	
Parallel Sessions 2	
15:30 – 16:50 Monday 3 April 2017	**KNO-1: Knowledge Engineering and Semantic Web-1** **Chair: Prof. Marcin Paprzycki, Poland** Location: Zuisyo Ball Room
	The knowledge increase estimation framework for ontology integration on the instance level *Marcin Pietranik, Adrianna Kozierkiewicz-Hetmańska and Bogumila Hnatkowska* **Collective Knowledge: An Enhanced Analysis of the Impact of Collective Cardinality** *Van Du Nguyen* **A new ontology-based approach for construction of domain model** *Bogumila Hnatkowska, Zbigniew Huzar, Lech Tuzinkiewicz and Iwona Dubielewicz* **Merging Possibilistic Belief Bases by Argumentation** *Thi Hong Khanh Nguyen, Trong Hieu Tran, Tran Van Nguyen and Thi Thanh Luu Le*

15:30 – 16:50 Monday 3 April 2017	**DBS: Intelligent Database Systems** **Chair: Prof. Suphamit Chittayasothorn, Thailand** Location: Mokuren Room
	Functional Querying in Graph Databases *Jaroslav Pokorny* **Answering Temporal Analytic Queries Over Big Data Based on Precomputing Architecture** *Nigel Franciscus, Xuguang Ren and Bela Stantic* **A Multi-Database Access System with Instance Matching** *Thanapol Phungtua-Eng and Suphamit Chittayasothorn* **Online Transaction Processing (OLTP) Performance Improvement using Filesystems Layer Transparent Compression** *Adrianus Kurniadi and Suharjito*

15:30 – 16:50 Monday 3 April 2017	**TXT-2: Natural Language and Text Processing-2** **Chair: Prof. Rey-Long Liu, Taiwan** Location: : Kuchinashi Room
	Online Integration of Fragmented XML Documents *Handoko Handoko and Janusz Getta* **An Efficient Hybrid Model for Vietnamese Sentiment Analysis** *Thanh Hung Vo, Thien Tin Nguyen, Hoang Anh Pham and Thanh Van Le* **Combining Latent Dirichlet Allocation and K-means for Documents Clustering: Effect of Probabilistic Based Distance Measures** *Quang Vu Bui, Karim Sayadi, Soufian Ben Amor and Marc Bui* **A Hybrid Method for Named Entity Recognition on Tweet Streams** *Van Cuong Tran, Dinh Tuyen Hoang, Ngoc Thanh Nguyen and Dosam Hwang*

15:30 – 16:50 Monday 3 April 2017	**ICxS-2: Intelligent and Contextual Systems-2** **Chair: Prof. Goutam Chakraborty, Japan** Location: Kikyo Room
	Context Injection as a Tool for Measuring Context Usage in Machine Learning *Maciej Huk* **An Approach for Multi-Relational Data Context in Recommender Systems** *Thai-Nghe Nguyen, Nhut-Tu Mai and Huu-Hoa Nguyen*

	A hybrid feature selection method based on symmetrical uncertainty and support vector machine for high-dimensional data classification
	Yongjun Piao and Keun Ho Ryu
	An Artificial Player for a Turn-based Strategy Game
	Filip Maly, Pavel Kriz and Adam Mrazek

Day 1. Monday, 3 April 2017	
Parallel Sessions 3	
16:50 – 18:30 Monday 3 April 2017	**KNO-2: Knowledge Engineering and Semantic Web-2** **Chair: Prof. Zbigniew Huzar, Poland** Location: Zuisyo Ball Room
	Towards common vocabulary for IoT ecosystems – preliminary considerations *Maria Ganzha, Marcin Paprzycki, Wiesław Pawłowski, Paweł Szmeja and Katarzyna Wasielewska* **Graphical interface for ontology mapping with application to access control** *Michał Drozdowicz, Motasem Alwazir, Maria Ganzha and Marcin Paprzycki* **Influence of group characterstics on agent voting** *Marcin Maleszka* **Analyses of Aspects of Knowledge Diffusion Based on the Example of the Green Supply Chain** *Anna Maryniak and Łukasz Strąk*

16:50 – 18:30 Monday 3 April 2017	**IIS: Intelligent Information Systems** **Chair: Chair: Prof. Jacek Mercik, Poland** Location: Mokuren Room
	Enhancing Product Innovation through Smart Innovation Engineering System *Mohammad Maqbool Waris, Edward Szczerbicki and Cesar Maldonado Sanin* **Comparative Evaluation of Bluetooth and Wi-Fi Direct for Tablet-Oriented Educational Applications** *Keiichi Endo, Ayame Onoyama, Dai Okano, Yoshinobu Higami and Shinya Kobayashi* **Analysis and Solution Model of Distributed Computing in Scientific Calculations** *Vladimir Sobeslav and Josef Horalek*

	Information Technology Services Evaluation Based ITIL V3 2011 and COBIT 5 in Center for Data and Information *Firman Hartawan and Jarot S. Suroso* **Comparing TPC-W and RUBiS via PCA** *Markus Lumpe and Bao Vo*

16:50 – 18:30 Monday 3 April 2017	**VIS: Computer Vision Techniques** **Chair: Prof. Kang-Hyun Jo, Korea** Location: Kuchinashi Room
	Automatic Interactive Video Authoring Method via Object Recognition *Ui Nyoung Yoon, Myung Duk Hong and Geun Sik Jo* **Highlights Extraction in Sports Videos Based on Automatic Posture and Gesture Recognition** *Kazimierz Choroś* **Boosting Detection Results of HOG-based Algorithms Through Non-Linear Metrics and ROI Fusion** *Darius Malysiak, Anna-Katharina Roemhild, Christoph Niess and Uwe Handmann* **Target object tracking-based 3D object reconstruction in a multiple camera environment in real time** *Jinjoo Song, Heeryon Cho and Sang Min Yoon* **Boosting Discriminative Models for Activity Detection using Local feature descriptors** *Van-Huy Pham, My-Ha Le and Van-Dung Hoang*

16:50 – 18:30 Monday 3 April 2017	**IDAIoT: Intelligent Data Analysis, Applications and Technologies for Internet of Things** **Chair: Prof. Mong-Fong Horng, Taiwan** Location: Kikyo Room
	Reaching Safety Vehicular Ad Hoc Network of IoT *Shu-Ching Wang, Shih-Chi Tseng, Shun-Sheng Wang and Kuo-Qin Yan* **Bus Drivers Fatigue Measurement Based on Monopolar EEG** *Chin-Ling Chen, Chong-Yan Liao, Rung-Ching Chen, Yung-Wen Tang and Tzay-Farn Shih* **An Improved Sleep Posture Recognition Based on Force Sensing Resistors** *Yung-Fa Huang, Yi-Hsiang Hsu, Chang Chia-Chi, Shing-Hong Liu, Ching-Chuan Wei, Tsung-Yu Yao and Chuan-Bi Lin*

Short-Term Load Forecasting in Smart Meters with Sliding Window-Based ARIMA Algorithms
Dima Alberg and Mark Last

Remaining Useful Life Estimation-A Case Study on Soil Moisture Sensors
Fang-Chien Chai, Chun-Chih Lo, Mong-Fong Horng and Yau-Hwang Kuo

Day 2. Tuesday, 4 April 2017	
Parallel Sessions 4	
08:00 – 09:10 Tuesday 4 April 2017	**ISAIS: Intelligent Systems and Algorithms in Information Sciences** **Chairs: Prof. Eva Volna, Dr. Martin Kotyrba, Czech Republic** Location: Zuisyo Ball Room
	Reasoning in formal systems of extended RDF networks *Martin Žáček, Alena Lukasová and Marek Vajgl* **Big Data Filtering through Adaptive Resonance Theory** *Adam Barton, Eva Volna and Martin Kotyrba* **The Effectiveness of the Simplicity in Evolutionary Computation** *Michal Przewozniczek, Krzysztof Walkowiak and Michał Aibin* **Genetic Algorithm for Self-Test Path and Circular Self-Test Path Design** *Miłosław Chodacki*

08:00 – 09:10 Tuesday, 4 April 2017	**ARPTA: Automated Reasoning and Proving Techniques with Applications in Intelligent Systems** **Chair: Prof. Jingde Cheng, Japan** Location: Mokuren Room
	Anticipatory Runway Incursion Prevention Based on Inaccurate Position Surveillance Information *Kai Shi, Hai Yu, Zhiliang Zhu and Jingde Cheng* **The Relation between Syntax Restriction of Temporal Logic and Properties of Reactive System Specification** *Noriaki Yoshiura* **Measuring Interestingness of Theorems in Automated Theorem Finding by Forward Reasoning: A Case Study in Peano's Arithmetic** *Hongbiao Gao and Jingde Cheng* **A Predicate Suggestion Algorithm for Automated Theorem Finding with Forward Reasoning** *Yuichi Goto, Hongbiao Gao and Jingde Cheng*

08:00 – 09:10 Tuesday 4 April 2017	**MMAML: Multiple Model Approach to Machine Learning** **Chair: Prof. Bogdan Trawiński, Poland** Location: Kuchinashi Room
	An Expert System to Assist with Early Detection of Schizophrenia *Sonya Rapinta Manalu, Bahtiar Saleh Abbas, Ford Lumban Gaol, Lukas Lukas and Bogdan Trawinski*

	Is the Data-Driven Approach still Better than Random Choice with Naive Bayes Classifiers? *Piotr Szymański and Tomasz Kajdanowicz* **On quality assessment in Wikipedia articles based on Markov Random Fields** *Rajmund Kleminski, Tomasz Kajdanowicz, Roman Bartusiak and Przemyslaw Kazienko* **Method for aspect-based sentiment annotation using rhetorical analysis** *Lukasz Augustyniak, Krzysztof Rajda and Tomasz Kajdanowicz*

08:00 – 09:10 Tuesday 4 April 2017	**ITiB-1: IT in Biomedicine-1** **Chair: Dr. Orcan Alpar, Czech Republic** Location: Kikyo Room
	Detection of Raynaud's Phenomenon by Thermographic Testing for Finger Thermoregulation *Orcan Alpar and Ondrej Krejcar* **Rough Hypercuboid and Modified Kulczynski Coefficient for Disease Gene Identification** *Ekta Shah and Pradipta Maji* **PCA-SCG-ANN for Detection of Non-Structural Protein 1 from SERS Salivary Spectra** *Yoot Khuan Lee, N. H. Othman, A. R. M. Radzol and W. Mansor* **The Use of Tuned Shape Window for the Improvement of Scars Imaging in Static Renal Scintigraphy in Children** *Janusz Pawel Kowalski, Bozena Birkenfeld, Piotr Zorga, Jakub Peksinski and Grzegorz Mikolajczak*

Day 2. Tuesday, 4 April 2017	
Parallel Sessions 5	
9:10 – 10:30 Tuesday 4 April 2017	**ADS: Applications of Data Science** **Chair: Prof. Fulufhelo V. Nelwamondo, South Africa** Location: Zuisyo Ball Room
	Exploring Spatial and Social Factors of Crime: A Case Study of Taipei City *Nathan Kuo, Chun-Ming Chang and Kuan-Ta Chen* **A Fuzzy Logic based Network Intrusion Detection System for Predicting the TCP SYN Flooding attack** *Nenekazi Nokuthala Penelope Mkuzangwe and Fulufhelo Vincent Nelwamondo*

	Analytical Ideas to Improve Daily Demand Forecasts: A Case Study *Sougata Deb* **Increasing the detection of minority class instances in financial statement fraud** *Stephen Moepya, Fulufhelo Nelwamondo and Bhekisipho Twala*

9:10 – 10:30 Tuesday 4 April 2017	**AIAE: Artificial Intelligence Applications for E-services** **Chair: Prof. Chen-Shu Wang, Taiwan** Location: Mokuren Room
	To solve the TDVRPTW via Hadoop MapReduce Parallel Computing *Bo-Yi Li and Chen-Shu Wang* **MapReduce-Based Frequent Pattern Mining Framework with Multiple Item Support** *Chen-Shu Wang, Shiang-Lin Lin and Jui-Yen Chang* **Balanced k-Means** *Chen-Ling Tai and Chen-Shu Wang* **An Optimal Farmland Allocation E-Service Deployment** *Wei-Feng Tung and Chun-Liang Pan*

9:10 – 10:30 Tuesday 4 April 2017	**TPATIT 2017: Technological Perspective of Agile Transformation in IT organizations** **Chair: Prof. Cezary Orłowski, Poland** Location: Kuchinashi Room
	Agents of RUP processes model for IT organizations readiness to agile transformation assessment *Włodzimierz Wysocki, Cezary Orłowski, Artur Ziółkowski and Grzegorz Bocewicz* **Evaluation of readiness of IT organizations to agile transformation based on case-based reasoning** *Miłosz Kurzawski, Tomasz Deręgowski, Cezary Orłowski and Artur Ziółkowski* **Building dedicated project management process basing on historical expierence** *Tomasz Deręgowski, Miłosz Kurzawski, Cezary Orłowski and Artur Ziółkowski* **Describing Criteria for Selecting a Scrum Tool Using the Technology Acceptance Model** *Gerard Wagenaar, Sietse Overbeek and Remko Helms*

9:10 – 10:30 Tuesday 4 April 2017	**SDABBI: Scalable Data Analysis in Bioinformatics and Biomedical Informatics** **Chair: Dr. Dariusz Mrozek, Poland** Location: Kikyo Room
	Orchestrating task execution in Cloud4PSi for scalable processing of macromolecular data of 3D protein structures *Dariusz Mrozek and Bozena Malysiak-Mrozek* **Scalability of a Genomic Data Analysis in the BioTest Platform** *Krzysztof Psiuk-Maksymowicz, Dariusz Mrozek, Roman Jaksik, Damian Borys, Krzysztof Fujarewicz and Andrzej Swierniak* **Quantifying the effect of metapopulation size on the persistence of infectious diseases in a metapopulation** *Cam-Giang Tran-Thi, Marc Choisy and Jean Daniel Zucker* **Large scale data classification system based on Galaxy Server and protected from information leak** *Krzysztof Fujarewicz, Sebastian Student, Tomasz Zielański, Michał Jakubczak, Justyna Pieter, Katarzyna Pojda and Andrzej Świerniak*

Day 2. Tuesday, 4 April 2017		
Parallel Sessions 6		
15:30 – 16:30 Tuesday, 4 April 2017	**SOC-2: Social Networks and Recommender Systems-2** **Chair: Prof. Tetsuji Kuboyama, Japan** Location: Zuisyo Ball Room	
	Runtime Verification and Quality Assessment for Checking Agent Integrity in Social Commerce System *Najwa Abu Bakar, Mohd Hafiz Selamat and Ali Selamat* **On Rumour Detection and its Experimental Verification on Twitter** *Dariusz Krol and Karolina Wiśniewska* **Level of education and previous experience in acquiring ICT/smart technologies by the elderly people** *Ivana Simonova and Petra Poulova*	

15:30 – 16:30 Tuesday 4 April 2017	**MIN-2: Machine Learning and Data Mining-2** **Chair: Prof. Marzena Kryszkiewicz, Poland** Location: Mokuren Room
	A method for early pruning a branch of candidates in the process of mining sequential patterns *Bac Le, Minh-Thai Tran and Anh-Duy Tran*

	Mining Periodic High Utility Sequential Patterns *Tai Dinh, Van-Nam Huynh and Bac Le* **Mining Class Association Rules with Synthesis Constraints** *Loan T.T. Nguyen, Bay Vo, Hung Son Nguyen and Sinh Hoa Nguyen*	

15:30 – 16:30 Tuesday 4 April 2017	**DEC-1: Decision Support & Control Systems -1** **Chair: Prof. Hoai An Le Thi, France** Location: Kuchinashi Room
	Defining Deviation Sub-spaces for the A*W Robust Planning Algorithm *Igor Wojnicki and Sebastian Ernst* **Failures in Discrete Event Systems and Dealing with Them by Means of Petri Nets** *Frantisek Capkovic* **The Temporal Supplier Evaluation Model Based on Multicriteria Decision Analysis Methods** *Jarosław Wątróbski, Wojciech Sałabun and Grzegorz Ladorucki*

15:30 – 16:30 Tuesday 4 April 2017	**InBRAIN: Intelligent Algorithms and Brain Functions** **Chair: Prof. Andrzej Przybyszewski, Poland** Location: Kikyo Room
	Building classifiers for Parkinson's disease using new Eye Tribe tracking method *Artur Szymanski, Stanislaw Szlufik, Dariusz M. Koziorowski and Andrzej W. Przybyszewski* **Neurofeedback System for Training Attentiveness** *Yoot Khuan Lee, Emir Eiqram Hidzir and Muhd Redzuan Haron* **Rules found by multimodal learning in one group of patients help to determine optimal treatment to other group of Parkinson's patients** *Andrzej Przybyszewski, Stanislaw Szlufik, Piotr Habela and Dariusz Koziorowski*

Day 2. Tuesday, 4 April 2017	
Parallel Sessions 7	
16:30 – 17:30 Tuesday 4 April 2017	**SOC-3: Social Networks and Recommender Systems-3** **Chair: Prof. Halina Kwasnicka, Poland** Location: Zuisyo Ball Room
	A power-graph analysis of non-fast information transmission *Jacek Mercik*

	Group Recommendation Based on the Analysis of Group Influence and Review Content *Chin-Hui Lai and Pei-Ru Hong* **Mixture Seeding for Balanced Information Spreading Processes in Complex Networks** *Jaroslaw Jankowski*

16:30 – 17:30 Tuesday 4 April 2017	**MIN-3: Machine Learning and Data Mining-3** **Chair: Prof. Mark Last, Israel** Location: Mokuren Room
	A Novel Entropy-Based Approach to Feature Selection *Chia-Hao Tu and Chunshien Li* **Recognizing the Pattern of Binary Hermitian Matrices by a Quantum Circuit** *Joanna Wiśniewska and Marek Sawerwain* **Fuzzy Maximal Frequent Itemset Mining Over Quantitative Databases** *Haifeng Li*

16:30 – 17:30 Tuesday 4 April 2017	**DEC-2: Decision Support & Control Systems-2** **Chair: Prof. Frantisek Capkovic, Slovakia** Location: Kuchinashi Room
	Creative Expert System: Comparison of Proof Searching Strategies *Bartlomiej Sniezynski, Grzegorz Legien, Dorota Wilk-Kolodziejczyk, Stanislawa Kluska-Nawarecka, Edward Nawarecki and Krzysztof Jaskowiec* **Spatial Planning as a Hexomino Puzzle** *Marcin Cwiek and Jakub Nalepa* **Ramp loss support vector data description** *Vo Xuanthanh, Tran Bach, Hoai An Le Thi and Tao Pham Dinh*

16:30 – 17:30 Tuesday 4 April 2017	**ADMTA-1: Advanced Data Mining Techniques and Applications-1** **Chair: Prof. Tzung-Pei Hong, Taiwan** Location: Kikyo Room
	Recognition of Empathy Seeking Questions in One of the Largest Woman CQA in Japan *Tatsuro Shimada and Akito Sakurai* **A High-Performance Algorithm for Mining Repeating Patterns** *Ja-Hwung Su, Tzung-Pei Hong, Chu-Yu Chin, Zhi-Feng Liao and Shyr-Yuan Cheng*

	A Content-Based Image Retrieval Method Based on the Google Cloud Vision API *Shih-Hsin Chen and Yi-Hui Chen*

Day 2. Tuesday, 4 April 2017	
Parallel Sessions 8	
17:30 – 18:30 Tuesday 4 April 2017	**SOC-4: Social Networks and Recommender Systems-4** **Chair: Dr. Ford Lumban Gaol, Indonesia** Location: Zuisyo Ball Room
	Evaluation of Tensor-Based Algorithms for Real-Time Bidding Optimization *Andrzej Szwabe, Pawel Misiorek and Michal Ciesielczyk* **The effect of presentation in online advertising on perceived intrusiveness and annoyance in different emotional states** *Kaveh Bakhtiyari, Jürgen Ziegler and Hafizah Husain* **Topic Preference-Based Random Walk Approach for Link Prediction in Social Networks** *Thiamthep Khamket, Arnon Rungsawang and Bundit Manaskasemsak*

17:30 – 18:30 Tuesday 4 April 2017	**MIN-4: Machine Learning and Data Mining-4** **Chair: Prof. Leszek Kotulski, Poland** Location: Mokuren Room
	Unsupervised Language Model Adaptation by Data Selection for Speech Recognition *Yerbolat Khassanov, Tze Yuang Chong, Benjamin Bigot and Eng Siong Chng* **A Novel Learning Vector Quantization Inference Classifier** *Chakkraphop Maisen, Sansanee Auephanwiriyakul and Nipon Theera-Umpon* **Probabilistic Neural Network Inferences on Oligonucleotide Classification based on Oligo: Target Interaction** *Anusha Abdul Rahiman and Vinodchandra S.*

17:30 – 18:30 Tuesday 4 April 2017	**MDSIS: Mathematics of Decision Sciences and Information Science** **Chair: Prof. Takashi Matsuhisa, Japan** Location: Kuchinashi Room
	A Ranking Procedure with the Shapley Value *Aleksei Kondratev and Vladimir Mazalov* **Optimal design of robust combinatorial mechanisms for substitutable goods** *Maciej Drwal*

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	Communication and KP-Model *Takashi Matsuhisa*

17:30 – 18:30 Tuesday 4 April 2017	**ADMTA-2: Advanced Data Mining Techniques and Applications-2** **Chair: Prof. Ja-Hwung Su, Taiwan** Location: Kikyo Room
	A Personalized Recommendation Method Considering Local and Global Influences *Rung-Ching Chen, Hendry Hong and Lijuan Liu* **Virtual Balancing of Decision Classes** *Marzena Kryszkiewicz* **Evaluation of Speech Perturbation Features for Measuring Authenticity in Stress Expressions** *Branimir Dropuljic, Leo Mrsic, Robert Kopal, Sandro Skansi and Adrijana Brkic*

Day 3. Wednesday, 5 April 2017
Parallel Sessions 9

08:00 – 09:00 Wednesday 5 April 2017	**MAMLAKE: Modern Applications of Machine Learning for Actionable Knowledge Extraction** **Chair: Dr. Waseem Ahmad, New Zealand** Location: Zuisyo Ball Room
	Traditional vs. Machine Learning Techniques: Customer Propensity *Mamta Rajnayak, Snigdha Moitra and Charu Nahata* **Analytics on the impact of Leadership styles and leadership outcome** *Waseem Ahmad and Akhtar Zaman* **An investigation into the relationship of strategic planning practices and organizational performance using advanced data mining techniques** *Uswa Zahra, Philip Bright and Waseem Ahmad*

08:00 – 09:00 Wednesday 5 April 2017	**ITSC-1: Intelligent Technologies in the Smart Cities in the 21st Century-1** **Chair: Prof. Cezary Orłowski, Poland** Location: Mokuren Room
	Knowledge Representation Framework for Agent Based Economic Systems in Smart City Context *Martina Husáková and Petr Tucnik* **Comparative analysis of selected algorithms in the process of optimization of traffic lights** *Krzysztof Małecki, Piotr Pietruszka and Stanisław Iwan* **Enhancing Energy Efficiency of Adaptive Lighting Control** *Leszek Kotulski, Adam Sędziwy and Artur Basiura*

08:00 – 09:00 Wednesday 5 April 2017	**IVMLS-1: Analysis of Image, Video and Motion Data in Life Sciences-1** **Chair: Dr. Marek Kulbacki, Poland** Location: Kuchinashi Room
	Ethnicity Distinctiveness through Iris Texture Features using Gabor Filters *Gugulethu Mabuza-Hocquet and Fulufhelo Nelwamondo* **A Bayesian Framework for Chemical Shift Assignment** *Adam Gonczarek, Piotr Klukowski, Maciej Drwal and Paweł Świątek*

	Fast moving UAV collision avoidance using optical flow and stereovision *Damian Pęszor, Marzena Wojciechowska, Konrad Wojciechowski and Marcin Szender*

08:00 – 09:00 Wednesday 5 April 2017	**ICVSA-1: Intelligent Computer Vision Systems and Applications -1** **Chair: Dr. Dariusz Frejlichowski, Poland** Location: Kikyo Room
	A New Feature Extraction with Dorsal Hand Recognition using Chromatic Imaging *Orcan Alpar and Ondrej Krejcar* **Improving Traffic Sign Recognition Using Low Dimensional Features** *Laksono Kurnianggoro, Wahyono Wahyono and Kang-Hyun Jo* **Vehicle Detection in Hsuehshan Tunnel Using Background Subtraction and Deep Belief Network** *Bo-Jhen Huang, Jun-Wei Hsieh and Chun-Ming Tsai*

Day 3. Wednesday, 5 April 2017	
Parallel Sessions 8	
9:00 – 10:00 Wednesday 5 April 2017	**CISTEF-1: Collective Intelligence for Service Innovation, Technology Opportunity, E-Learning and Fuzzy Intelligent Systems-1** **Chair: Dr. Kuo-Sui Lin, Taiwan** Location: Zuisyo Ball Room
	Modeling a Decision Support System for Capital Budgeting Project Selection *Kuo-Sui Lin and Jui-Ching Pan* **Innovative Diffusion Chance Discovery** *Chao-Fu Hong and Mu-Hua Lin* **Chance Discovery in a Group-Trading Model – Creating an Innovative Tour Package with Freshwater Fish Farms at Yilan** *Pen-Choug Sun, Chao-Fu Hong, Tsu-Feng Kuo and Rahat Iqbal*

9:00 – 10:00 Wednesday 5 April 2017	**ITSC-2: Intelligent Technologies in the Smart Cities in the 21st Century-2** **Chair: Prof. Cezary Orłowski, Poland** Location: Mokuren Room
	The principles of model building concepts which are applied to the design patterns for Smart Cities *Katarzyna Ossowska, Liliana Szewc and Cezary Orłowski*

	Assessment and optimization of air monitoring network for Smart Cities with multicriteria decision analysis *Aleksander Orlowski, Mariusz Marc, Jacek Namiesnik and Marek Tobiszewski* **Urban air quality forecasting: a regression and a classification approach** *Kostas Karatzas, Nikos Katsifarakis, Cezary Orlowski and Arkadiusz Sarzyński*

9:00 – 10:00 Wednesday 5 April 2017	**IVMLS-2: Analysis of Image, Video and Motion Data in Life Sciences-2** **Chair: Dr. Marek Kulbacki, Poland** Location: Kuchinashi Room
	Manifold methods for action recognition and object tracking *Agnieszka Michalczuk, Kamil Wereszczynski, Jakub Segen, Henryk Josinski, Konrad Wojciechowski, Artur Bąk, Slawomir Wojciechowski, Aldona Barbara Drabik and Marek Kulbacki* **Optical flow based face anonymization in video sequences** *Kamil Wereszczynski, Agnieszka Michalczuk, Jakub Segen, Magdalena Tabaka, Artur Bąk, Jerzy Paweł Nowacki and Marek Kulbacki* **An Analysis of the Centre of Mass Behavior during Treadmill Walking** *Henryk Josiński, Adam Świtoński, Agnieszka Michalczuk, Konrad Wojciechowski and Jerzy Paweł Nowacki*

9:00 – 10:00 Wednesday 5 April 2017	**ICVSA-2: Intelligent Computer Vision Systems and Applications -2** **Chair: Dr. Dariusz Frejlichowski, Poland** Location: Kikyo Room
	Moment Shape Descriptors Applied for Action Recognition in Video Sequences *Katarzyna Gościewska and Dariusz Frejlichowski* **Segment counting versus prime counting in the Ulam square** *Leszek J Chmielewski, Arkadiusz Orłowski and Grzegorz Gawdzik* **Testing the limits of detection of the 'orange skin' defect in furniture elements with the HOG features** *Leszek J Chmielewski, Arkadiusz Orłowski, Grzegorz Wieczorek, Katrzyna Śmietańska and Jarosław Górski*

Day 3. Wednesday, 5 April 2017	
Parallel Sessions 8	
10:30 –11:30 Wednesday 5 April 2017	**CISTEF-2: Collective Intelligence for Service Innovation, Technology Opportunity, E-Learning and Fuzzy Intelligent Systems-2** **Chair: Dr. Kuo-Sui Lin, Taiwan** Location: Zuisyo Ball Room
	Using Sentiment Analysis to Explore the Association between News and Housing Prices *Hsiao-Fang Yang and Dr. Jia Seng* **Importance-Performance Analysis Based Evaluation Method for Security Incident Management Capability** *Chih-Chung Chiu and Kuo-Sui Lin*

10:30 –11:30 Wednesday 5 April 2017	**ITiB-2: IT in Biomedicine-2** **Chair: Prof. Ondrej Krejcar, Czech Republic** Location: Mokuren Room
	Prediction of Arterial Blood Gases Values in Premature Infants with Respiratory Disorders *Wiesław Wajs, Hubert Wojtowicz, Piotr Wais and Marcin Ochab* **Extraction of Optical Disc Geometrical Parameters with Using of Active Snake Model with Gradient Directional Information** *Jan Kubicek, Juraj Timkovic, Marek Penhaker, Martin Augustynek, Iveta Bryjova and Vladimir Kasik* **Segmentation of Vascular Calcifications and Statistical Analysis of Calcium Score** *Jan Kubicek, Iveta Bryjova, Jan Valošek, Marek Penhaker, Martin Augustynek, Martin Cerny and Vladimir Kasik*

10:30 –11:30 Wednesday 5 April 2017	**IVMLS-3: Analysis of Image, Video and Motion Data in Life Sciences-3** **Chair: Dr. Marek Kulbacki, Poland** Location: Kuchinashi Room
	Interfered Seals and Handwritten Characters Removal for Prescription Images *Wen-Hong Zhang, Teng-Hui Tseng and Chun-Ming Tsai* **Diminishing Variant Illumination Factor in Object Recognition** *Ardian Yunanto and Iman Herwidiana Kartowisastro* **Towards the Notion of Average Trajectory of the Repeating Motion of Human Limbs** *Sven Nõmm, Aaro Toomela and Ilia Gaichenja*

	Neuromuscular Fatigue Analysis of Soldiers using DWT based EMG and EEG Data Fusion during Load Carriage *Dk Nurhayatul Filzah Pg Damit, S. M. N. Arosha Senanayake, Owais Ahmed Malik and Nor Jaidi Tuah*
10:30 –11:30 Wednesday 5 April 2017	**ICVSA-3: Intelligent Computer Vision Systems and Applications -3** **Chair: Dr. Dariusz Frejlichowski, Poland** Location: Kikyo Room
	Automatic Detection of Singular Points in Fingerprint Images using Convolution Neural Networks *Hong-Hai Le, Ngoc-Hoa Nguyen and Tri Thanh Nguyen* **Image Processing Approach to Diagnose Eye Diseases** *Prashasthi M, Shravya K. S., Ankit Deepak, Manjunath Mulimani and Shashidhar G. Koolagudi* **Weakly-labelled Semantic Segmentation of Fish Objects in Underwater Videos using a Deep Residual Network** *Alfonso Labao and Prospero Naval*

Day 1. Monday, 3 April 2017
Poster Session-1

13:00 – 14:00	**Poster Session 1** **Chairs: Prof. Kiyoaki Shirai, Japan and Dr. Dariusz Król, Poland** Location: Zuisyo Ball Room
	Poster 1 **Analyzing Accident Prone Regions by Clustering** *Shuvashish Paul, Ashik Mostafa Alvi, Mahmudul Alam Nirjhor, Shohanur Rahman, Adeeba Kashfee Orcho and Mohammad Rashedur Rahman* Poster 2 **Analyzing Life Insurance Data with Different Classification Techniques for Customers' Behavior Analysis** *Md. Saidur Rahman, Kazi Zawad Arefin, Saqif Masud, Shahida Sultana and Mohammad Rashedur Rahman* Poster 3 **Classification of Product Rating Using Data Mining Techniques** *Pinku Deb Nath, Sowvik Kanti Das, Fabiha Nazmi Islam, Kifayat Tahmid, Raufir Ahmed Shanto and Mohammad Rashedur Rahman* Poster 4 **MASS: a Semi-Supervised Multi-Label Classification Algorithm with Specific Features** *Thi-Ngan Pham, Van-Quang Nguyen, Duc-Trong Dinh, Tri Thanh Nguyen and Quang-Thuy Ha* Poster 5 **An Efficient Defect Classification Algorithm for Ceramic Tiles** Khaled Ragab and Nhed Alsharay Poster 6 **Prediction of Academic Performance During Adolescence Based on Socioeconomic, Psychological and Academic Factors** *A.T.M Shakil Ahamed, Navid Tanzeem Mahmood and Mohammad Rashedur Rahman* Poster 7 **A Super-Vector Deep Learning Coprocessor with High Performance-Power Ratio** *Jingfei Jiang, Zhiqiang Liu, Jinwei Xu and Rongdong Hu*

Poster 8
Bi-temporal Database Model for Legal Merger Transactions and Late-arriving Information Problem: the Case of Polish Merger Market
Aleksander Buczek and Jacek Mercik

Poster 9
Breathing Movement Analysis for Adjustment of Radiotherapy Planning
Marek Penhaker, Marketa Novakova, Jakub Knybel, Jan Kubicek, Jan Grepl, Vladimir Kasik and Tomas Zapletal

Poster 10
Measuring Improvement in Access to Complete Data in Healthcare Collaborative Database Systems
Nurul Emran, Fathin N. M. Leza and Noraswaliza Abdullah

Poster 11
Rough Set Theory for Supporting Decision Making on Relevance in Browsing Multilingual Digital Resources
Jolanta Mizera-Pietraszko and Jolanta Tancula

Poster 12
The Social Influence on the Behavioral Intention to Use Mobile Electronic Medical Records
Yi-Horng Lai

Poster 13
Stock Prices Growth Pattern by the Emergency Demand After the Great East-Japan Earthquake
Kenji Yamaguchi, Yuriko Yano and Yukari Shirota

Poster 14
Structure-Based Virtual Screening for Novel Modulators of Human Orexin 2 Receptor with Cloud Systems and Supercomputers
Rafael Dolezal, Eugenie Nepovimova, Michaela Melikova and Kamil Kuca

Poster 15
Combination of Collision Detection and Visibility Algorithms in Simulation of Effective Anti-Air Elements Placement
Dalibor Cimr, Richard Cimler and Hana Tomášková

Poster 16
A Combination of Deep Learning and Hand-Designed Feature for Plant Identification based on Leaf and Flower Images
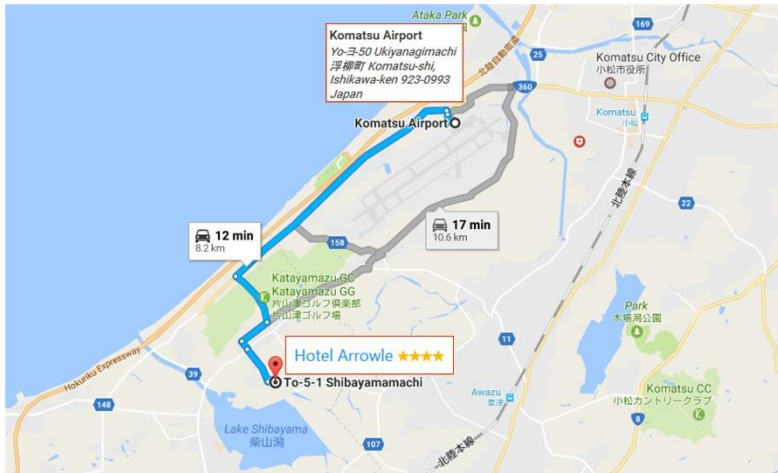*Thi Thanh-Nhan Nguyen, Thi-Lan Le, Hai Vu, Huy-Hoang Nguyen and Van-Sam Hoang*

Poster 17
Mobile Application for Calculation of Optimal Route Between Searched Points of Interest
Jan Dvorak and Ondrej Krejcar

Poster 18
Parking Assistant - Prediction of an Empty Parking Space in Time
Jan Dvorak and Ondrej Krejcar

Poster 19
Recent Advances in the Field of Foreground Detection: An Overview
Ajmal Shahbaz, Laksono Kurnianggoro, Wahyono Wahyono and Kang-Hyun Jo

Poster 20
Responsive Data Table Solution with New Scrolling Control Gesture for Better User Experience
Lukáš Čegan

Poster 21
Tracking of Bone Reparation Process with Using of Periosteal Callus Extraction based on Fuzzy C-Means Algorithm
Jan Kubicek, Marek Penhaker, Iveta Bryjova, Martin Augustynek, Tomas Zapletal and Vladimir Kasik

Poster 22
Supply Chains of Cross-Border e-Commerce
Arkadiusz Kawa

Poster 23
Towards a Personalized Virtual Customer Experience
Bartłomiej Pierański and Sergiusz Strykowski

Poster 24
Towards Big Management
Marcin Hernes and Andrzej Bytniewski

Day 2. Tuesday, 4 April 2017
Poster Session-2

13:00 – 14:00	**Poster Session 2** **Chairs: Prof. Kiyoaki Shirai, Japan and Dr. Dariusz Król, Poland** Location: Zuisyo Ball Room
	Poster 25 **Automatic Post-Editing of Kazakh Sentences Machine Translated from English** *Assem Abeustanova, Assem Abeustanova and Ualsher Tukeyev* Poster 26 **Complex Technology of Machine Translation Resources Extension for the Kazakh Language** *Diana Rakhimova and Zhandos Zhumanov* Poster 27 **Enhancing Latent Semantic Analysis by Embedding Tagging Algorithm in Retrieving Malay Text Documents** *Nurazzah Abd Rahman, Afiqah Bazlla Md Soom and Normaly Kamal Ismail* Poster 28 **Exploiting Distance Graph and Hidden Topic Models for Multi-label Text Classification** *Thi-Ngan Pham, Van-Hien Tran, Tri-Thanh Nguyen and Quang-Thuy Ha* Poster 29 **Financial Reports and Financial News - An Information Content Gap Analysis** *Dr. Jia Seng, Kuan-Ying Huang and Dr. Hsiao-Fang Yang* Poster 30 **The Great National Photocorpus of 20th-Century Vietnamese. Origins, assumptions and goals** *Piotr Wierzchoń* Poster 31 **The Impact of User Sentiment Aroused by The-day-of-the-week on the Recommendation Effectiveness in Microblog** *Shih Yun Weng, Ping Yu Hsu, Ming-Shien Cheng and Phan-Anh-Huy Nguyen* Poster 32 **Checking Compliance of Program with SecureUML Model** *Thanh-Nhan Luong, Van-Khanh To and Ninh-Thuan Truong*

Poster 33
A Performance Comparison of Feature Extraction Methods for Sentiment Analysis
Po Hung Lai and Rayner Alfred

Poster 34
A Study of Plagiarism Checker System Based on Chinese Word Segmentation and SQL Intersection Operation Technique
Ming-Hsiung Ying, Jui-Wen Fan and Hsiu-Min Yu

Poster 35
Text Summarization Based on Classification Using ANFIS
Yogan Jaya Kumar, Jia Kang Fong, Ong Sing Goh and Atif Khan

Poster 36
Analysis of Indoor Positioning Based on BLE
Wenjun Zhu, Shinheon Kim, Jaemin Hong and Chonggun Kim

Poster 37
A Fusion Technique of Schema and Syntax Rules for Validating Open Data
Shinya Yamaguchi and Kimio Kuramitsu

Poster 38
Job Description Language for a Browser-Based Computing Platform --- A Preliminary Report
Arkadiusz Danilecki, Tomasz Fabisiak and Maciej Kaszubowski

Poster 39
Measuring the Effectiveness of Knowledge Driven Web Applications
Supriya Chakraborty, Novarun Deb and Nabendu Chaki

Poster 40
Adaptation of an ANN-Based Air Quality Forecasting Model to a New Application Area
Cezary Orłowski, Arkadiusz Sarzyński, Kostas Karatzas, Nikos Katsifarakis and Joanicjusz Nazarko

Poster 41
Multi-Sentence Compression Using Word Graph and Integer Linear Programming
Dung Tran Tuan, Nam Van Chi and Minh-Quoc Nghiem

Poster 42
Generation of Test Data using Genetic Algorithm and Constraint Solver
Ngoc-Thi Dinh, Hieu-Dinh Vo, Thi Dao Vu and Viet-Ha Nguyen

Poster 43
Investigating the Issues of using Agile Methods in Offshore Software Development in Sri Lanka
Nipunika Vithana, David Asirvatham and M. Gapar. M. Johar

Poster 44
A Method for Automated Test Cases Generation from UML Models with String Constraints
Thi Dao Vu, Pham Ngoc Hung and Viet Ha Nguyen

Poster 45
Parallel Self-organizing Map Using Shared Virtual Memory Buffers
Noor Elaiza Abdul Khalid, Muhammad Firdaus Mustapha, Azlan Ismail and Mazani Manaf

Poster 46
On Implementation of the Assumption Generation Method for Component-Based Software Verification
Chi Luan Le, Hoang-Viet Tran and Pham Ngoc Hung

Poster 47
Parametric Optimization of the Selected Classifiers in Binary Classification
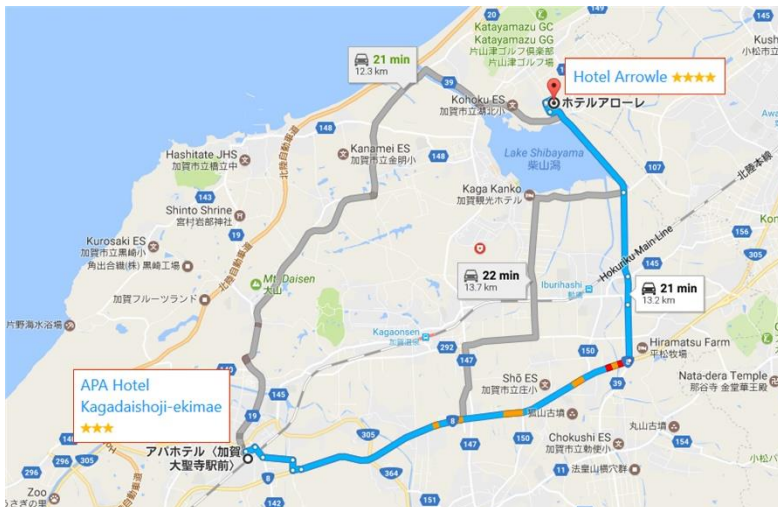*Daniel Kostrzewa and Robert Brzeski*

LOCATION OF CONFERENCE HOTELS

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922-0402 Ishikawa, Kaga, Shibayamamachi To 5-1
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