



WISE2017 – The 18th International Conference on  
Web Information Systems Engineering  
October 7-11, 2017, Hotel “TSARGRAD”,  
Puschino, Moscow region, Russia  
<http://www.wise-conferences.org/>



Room A – Hall Gerbovy; Room B – Hall Boyarsky  
October 08, 2017 (Sunday)

| Time/Room   | A   | B  |
|-------------|---|--|
| 08:30       | <b>Registration</b>   |  |
| 09:00-09:30 | <b>Conference opening (welcome address, program introduction)</b> <i>Session Chairs:</i> Stanislav Klimenko               |  |
| 09:30-10:30 | <b>Tutorial 1</b> “Tensor Based Methods for Data Analytics: Basics and Applications”<br><i>Moderator:</i> Dr. Richi Nayak | <b>Session 01:</b> Microblog Data Analysis<br><i>Session Chair:</i> Prof. Jia Weijia       |
| 10:30-11:00 | <b>Morning Tea Break</b>  |  |
| 11:00-12:30 | <b>Tutorial 2</b> “Set similarity query processing”<br><i>Moderator:</i> Thirunavukarasu Balasubramaniam                  | <b>Session 02:</b> Social Network Data Analysis<br><i>Session Chair:</i> Dr. Weiliang Zhao |

|             |   |   |
|-------------|---|---|
| 13:00-14:00 | <b>Lunch</b>  |   |
| 14:00-15:30 | <b>Keynote Session 1:</b> by Prof. Lei Chen                             | <i>Session Chair:</i> Prof. Qing Li   |
| 15:30-16:00 | <b>Afternoon Tea Break</b>  |   |
| 16:00-17:30 | <b>Session 03:</b> Data mining<br><i>Session Chair:</i> Prof. Minhua Lu | <b>Session 04:</b> Event Detection<br><i>Session Chair:</i> Dr. Richi Nayak |
| 19:00-21:00 | <b>HIS-WISE Welcome Dinner</b>  |   |

October 09, 2017 (Monday)

| Time/Room   | A   | B  |
|-------------|---|--|
| 09:00       | <b>Registration</b>   |  |
| 09:30-10:30 | <b>Keynote Session 2:</b> Prof. Jie Lu  | <i>Session Chair:</i> Prof. Yanchun Zhang  |
| 10:30-11:00 | <b>Morning Tea Break</b>  |  |
| 11:00-12:30 | <b>Special session</b> on Security and Privacy 1<br><i>Session Chair:</i> Prof. Yuheng Wang | <b>Session 05:</b> Spatial and Temporal Data<br><i>Session Chair:</i> Dr. Yanhua Cao     |
| 13:00-14:00 | <b>Lunch</b>  |  |
| 14:00-15:30 | <b>Special session</b> on Security and Privacy 2<br><i>Session Chair:</i> Prof. Yuheng Wang | <b>Session 06:</b> Graph Theory<br><i>Session Chair:</i> Dr. Tarique Anwar               |
| 15:30-16:00 | <b>Afternoon Tea Break</b>  |  |
| 16:00-17:30 | <b>Session 07:</b> Cloud Computing<br><i>Session Chair:</i> Dr. Jinjing Huang               | <b>Session 08:</b> Interchange session<br><i>Session Chair:</i> Prof. Stanislav Klimenko |
| 19:00-21:00 | <b>Banquet</b>  |  |

October 10, 2017 (Tuesday)

| Time/Room   | A  | B   |
|-------------|--|---|
| 09:00-09:45 | <b>Invited Session 3:</b> Professor Vladimir Burkov  |   |
| 09:45-10:30 | <b>Invited Session 4:</b> Professor Alexander Raikov   |   |
| 10:30-11:00 | <b>Morning Tea Break</b>   |   |
| 11:00-12:00 | <b>Session 9:</b> Crowdsourcing and Crowdsensing<br><i>Session Chair:</i> Prof. Alexander Raikov | <b>Session 13:</b> Data Storage and Generator. Sentiment Analysis<br><i>Session Chair:</i> Dr. Peng Cai |
| 12:00-13:00 | <b>Session 10:</b> Web data model. Query Processing<br><i>Session Chair:</i> Dr. Zou He          | <b>Session 14:</b> Security and Privacy<br><i>Session Chair:</i> Dr. Maria Berberova                    |
| 13:00-14:00 | <b>Lunch</b>   |   |
| 14:00-15:30 | <b>Session 11:</b> Language Processing and Web Protocols<br><i>Session Chair:</i> Dr. Lei Niu    | <b>Session 15:</b> Recommender Systems 1<br><i>Session Chair:</i> Dr. Georgia Kapitsaki                 |
| 15:30-16:00 | <b>Afternoon Tea Break</b>   |   |
| 16:00-17:30 | <b>Session 12:</b> Web-based Applications<br><i>Session Chair:</i> Dr. Andrey Kravchenko         | <b>Session 16:</b> Recommender Systems 2<br><i>Session Chair:</i> Dr. Sergej Sizov                      |
| 19:00-21:00 | <b>Banquet</b>   |   |

October 8th 2017, Sunday

**Hall Merchant**

**Keynote Session 1: Prof. Lei Chen Title: Human-Powered Machine Learning**



**Human-Powered Machine Learning**

*Authors: Professor Lei Chen,*

*Affiliation: HKUST, CHINA*

*Department of Computer Science and Engineering*

*Hong Kong University of Science and Technology*

*Clear Water Bay, Kowloon, Hong Kong*

*Email: leichen@cse.ust.hk*

**Abstract:**

Recently, machine learning becomes quite popular and attractive, not only to academia but also to the industry. The successful stories of machine learning on Alpha-go and Texas hold 'em games raise significant interests on machine learning. The question is whether machine learning can do everything perfect? In this talk, I will first give several examples that current machine learning techniques have difficulty to perform well. Then, I will show by putting human in the machine-learning loop, the results can be significantly improved. After that, I will discuss the challenges and opportunities for this human-powered machine learning paradigm.

**Short CV:**

Lei Chen received the BS degree in computer science and engineering from Tianjin University, Tianjin, China, in 1994, the MA degree from Asian Institute of Technology, Bangkok, Thailand, in 1997, and the PhD degree in computer science from the University of Waterloo, Canada, in 2005. He is currently a full professor in the Department of Computer Science and Engineering, Hong Kong University of Science and Technology. His research interests include human-powered machine learning, crowdsourcing, social media analysis, probabilistic and uncertain databases, and privacy-preserved data publishing. The system developed by his team won the excellent demonstration award in VLDB 2014. He got the SIGMOD Test-of-Time Award in 2015. He is PC Track chairs for SIGMOD 2014, VLDB 2014, ICDE 2012, CIKM 2012, SIGMM 2011. He has served as PC members for SIGMOD, VLDB, ICDE, SIGMM, and WWW. Currently, he serves as Editor-in-Chief of VLDB Journal and an associate editor-in-chief of IEEE Transaction on Data and Knowledge Engineering. He is a member of the VLDB endowment.

**Keynote Session 2: Prof. Jie Lu Title: Learning under Concept Drift**



**Learning under Concept Drift**

*Authors: Professor Jie Lu*

*Affiliation: UTS, AUSTRALIA*

*Associate Dean (Research Excellence) and*

*Dist. Prof., University of Technology Sydney,*

*Faculty of Engineering & Information Technology*

**Abstract:**

Concept Drift is known as unforeseeable change in underlying streaming data distribution over time. The phenomenon of concept drift has been recognized as the root cause of decreased effectiveness in many decision-related applications. Adaptive learning under concept drift is a relatively new research field and is one of the most pressing and fundamental problems in the current age of big data. Building an adaptive system is a highly promising solution for coping with persistent environmental change and avoiding system performance degradation. This talk will present a set of methods and algorithms that can effectively and accurately detect concept drift and react to it, with knowledge adaptation, in

a timely way.

#### Short CV:

Distinguished Professor Jie Lu is an internationally established scientist in the areas of fuzzy transfer learning, decision support systems, concept drift, recommender systems, prediction and early warning systems. She is the Associate Dean in Research Excellence in the Faculty of Engineering and Information Technology at the University of Technology Sydney (UTS). She is also the Director of the Centre for Artificial Intelligence (CAI). She has published six research books and more than 400 papers in refereed journals and conference proceedings. She has won eight Australian Research Council (ARC) discovery grants and 10 other research grants in the last 15 years. She serves as Editor-In-Chief for Knowledge-Based Systems (Elsevier) and as Editor-In-Chief for International Journal on Computational Intelligence Systems (Atlantis), has delivered 15 keynote speeches at international conferences, and has chaired 10 international conferences. She is an ARC panel member (2016-2018).

#### October 10, 2017 (Tuesday)

**Invited Session 3: Prof. V.N.Burkov Title: Network Programming Method in Problems of Discrete Optimization**



#### **Network Programming Method in Problems of Discrete Optimization**

*Authors: Professor V.N.Burkov*

*Affiliation: Institute of Control Sciences of V.A.Trapeznikov  
of the Russian Academy of Sciences, Moscow*

#### Abstract:

Problems of nonlinear optimisation (in particular, discrete optimisation) belong to the class of so-called NP-difficult problems for which there are no effective methods of the exact decision.

In 2004 V.N.Burkov and I.V.Burkova had been offered the new approach to the decision of problems of discrete optimisation in which basis possibility of submission of function in the form of superposition of more simple functions lies. Such superposition it is convenient to represent in the form of a network which inputs correspond to variables, intermediate tops – to the functions entering into superposition, and in final top the significance of function is calculated. Because of such submission the method has received the name of a method network [2] (in that specific case, dichotomizing) programming. This method is applicable in cases when criterion function and functions-restrictions have identical structures of network submissions. Then in each top of network submission optimisation problems, more simple, than initial are solved. The task solution in final top gives top (or bottom) an estimation (and provided that the structure of network submission is a tree, – the exact decision) an initial problem. Special case of this method is the method of a dynamic programming of Bellman (structure of network submission – a tree branch). A number of problems for which a dynamic programming method is inapplicable, decided by a network programming method.

In the talk the network programming method is applied to problems of nonlinear programming. The concept of the dual problem, one of admissible is entered (but generally not optimum) which decisions gives a method of multipliers of Lagrange. It is proved that the dual problem is a convex programming problem. Necessary and sufficient optimality conditions for a dual problem of integer linear programming are received.

#### Short CV:

Burkov Vladimir N. – Born in 1939. Dr. Sci. (Eng.), Prof., head of the Laboratory of Active Systems at Trapeznikov Institute of Control Sciences of the Russian Academy of Sciences, full member of the Russian Academy of Natural Sciences, laureate of the State Prize of the Soviet Union and J. von Neumann's Award. Over 30 years of research in the field of control of large-scale systems. Vice-president of the Russian Association of Project Management, founder of theory of active systems, leading expert in control of socioeconomic systems.  
e-mail: vlab17@bk.ru





**Convergent Situational Center – the Cutting Edge Networked**

*Authors: Professor A.N.Raikov*

*Affiliation: Institute of Control Sciences of V.A.Trapeznikov  
of the Russian Academy of Sciences, Moscow, Leading Researcher;  
NSA Ltd, General director*

**Abstract:**

At present, there are the following limitations of the group decision support systems, including situational centers (SC), development: the dominant of the causal approaches over the subjective and uncaused; emphasis on the choice of getting solutions from alternatives; limited opportunities for continuous development; security with disparities in development management; the fragmented nature of the distributed information fund; excessive divergence of the processes of collective decisions making; extrapolation character of forecasting; consideration of situational center as a technological design to the detriment of institutional construction; lack of expert-analytical culture, the weakness of advanced technologies for visual analysis of data, the collective unconscious is not taken into account; the insight process cannot be achieved using traditional modeling methods, and etc. One of the main restrictions in advancing SC is that the decision-making processes rarely involve effective situational awareness and virtual collaboration technologies so as to give the participants the power to make the decision-making processes stable (sustainable) and purposeful. The SC decision-making processes can be characterized by the following specific features: weakly formalized and ill-defined problems; poorly predictable and chaotic behaviour of the environment; the decision-making process does not include representatives of business and citizens; unsustainable and divergent discussion; unique problem situations, and others. To address these issues the author's convergent approach was applied. It is based on the fundamental principles of control thermodynamics, inverse problems solving, holistic discourse, cognitive modeling, quantum semantics, and artificial intelligence. This report presents a further development, which considers group breakthrough thinking processes in distributed SC and introduces cognitive programming approaches. It was confirmed that required stability and purposefulness could be attained if SC's meeting procedures are organized the way that exploits the topological spaces for helping in solution of such kind of problems, when we have to create the model of the situation with only qualitative factors (concepts). The cognitive modelling could be verified by Big Data analysis technology and it provides sufficient framework of the fundamental principles by incorporation into meeting procedures. The research of the "Eureka Effect" helped to create the technology for support in getting group insight. The quantum semantic approach helps to get holistic discourse SC's meeting. The approach has been implemented in real-world applications.

**Short CV:**

**Raikov, Alexander Nikolayevich** (born February 10, 1951, Moscow). Doctor of Technical Sciences, Professor. State Advisor of the Russian Federation of the 3rd class. The Winner of the Russian Federation Government Award in Science and Technology. The specialist in the fields of strategic management, artificial intelligence, expert-analytical technologies, situation centers. Till 1993, Prof. Raikov developed automated control systems for the Russian Government; in 1992 – 1999 - the head of the Information-Analytical Department of the Russian President Administration; in 1996-1999 he was the coordinator of the Situation Center of the Russian President. Since 2000, President of the non-profit partnership for research and social development Analytical Agency "New strategies," General director NSA Ltd. Professor of the Moscow Technological University; Leading researcher of the V.A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences. The Expert of Russian Academy of Sciences, the Russian Foundation for Basic Research, the Russian Science Foundation, Ministry of Education of Russia, Ministry of Economic Development of Russia and others. The author of over 360 scientific papers, 6 books, 9 patents in the field of strategic management, information and analytical technologies, situation centers, decision support systems, networked expertise (e-expertise).

**October 08, 2017 (Sunday)**

**11:00-12:30 Special sessions on Security and Privacy 1:**

**Chair: Hua Wangu**

| No. | Title   | Authors   |
|-----|---|---|
| 1   | A Study on Securing Software Defined Networks                             | Raihan Ur Rasool, Hua Wang, Wajid Rafique, Jianming Yong, and Jinli Cao                       |
| 2   | A Verifiable Ranked Choice Internet Voting System                         | Xuechao Yang, Xun Yi, Caspar Ryan, Ron van Schyndel, Fengling Han, Surya Nepal, and Andy Song |
| 3   | Privacy Preserving Location Recommendations                               | Shahriar Badsha, Xun Yi, Ibrahim Khalil, Dongxi Liu, Surya Nepal, and Elisa Bertino           |
| 4   | Topic Detection with Locally Weighted Semi-supervised Collective Learning | Ye Wang, Yong Quan, Bin Zhou, Yanchun Zhang, and Ming Peng                                    |

**14:00-15:30 Special sessions on Security and Privacy 2:**

**Chair: Hua Wang**

| No. | Title  | Authors  |
|-----|--|--|
| 1   | My Face is Mine: Fighting Unpermitted Tagging on Personal/Group Photos in Social Media                 | Lihong Tang, Wanlun Ma, Sheng Wen, Marthie Grobler, Yang Xiang, and Wanlei Zhou  |
| 2   | Cryptographic Access Control in Electronic Health Record Systems: A Security Implication               | Pasupathy Vimalachandran, Hua Wang, Yanchun Zhang, Hongbo Kuang, and Guangping Zhuo  |
| 3   | SDN-based Dynamic Policy Specification and Enforcement for Provisioning Security as a Service in Cloud | Udaya Tupakula, Vijay Varadharajan, and Kallol Krishna Karmakar  |
| 4   | Botnet command and control architectures revisited: Tor Hidden services and Fluxing                    | Marios Anagnostopoulos, Georgios Kambourakis, Panagiotis Drakatos, Michail Karavolos, Sarantis Kotsilitis, and David K. Y. Yau |

**October 8th 2017, Sunday, Morning Plenary Session**

**09:30-10:30 Session 01: Microblog Data Analysis**

*Session Chair: Prof. Jia Weijia*

| No. | Title  | Authors  |
|-----|--|--|
| 1   | A Refined Method for Detecting Interpretable and Real-time Bursty Topic in Microblog Stream (id 165)       | Tao Zhang, Bin Zhou, Jiuming Huang, Yan Jia, Bing Zhang, and Zhi Li                          |
| 2   | Connecting Targets to Tweets: Semantic Attention-based Model for Target-specific Stance Detection (id 183) | Yiwei Zhou, Alexandra I. Cristea, and Lei Shi  |
| 3   | A Network Based Stratification Approach for Extracting Summary Tweets for News Articles (id 58)            | Roshni Chakraborty, Maitry Bhavsar, Sourav Dandapat, and Joydeep Chandra                     |
| 4   | Interpreting Reputation through Frequent Named Entities in Twitter (id 95) (short paper)                   | Nacéra Bennacer, Francesca Bugiotti, Moditha Hewasinghage, Suela Isaj, and Gianluca Quercini |

**11:00-12:30 Session 02: Social Network Data Analysis***Session Chair:* Dr. Weiliang Zhao

| No. | Title  | Authors   |
|-----|--|---|
| 1   | Discovering and Tracking Active Online Social Groups                               | Md Musfique Anwar, Chengfei Liu, Jianxin Li, and Tarique Anwar                              |
| 2   | Dynamic Relationship Building: Exploitation Versus Exploration on a Social Network | Bo Yan, Yang Chen, and Jiamou Liu   |
| 3   | Social Personalized Ranking Embedding For Next POI Recommendation                  | Yan Long, Pengpeng Zhao, Victor S. Sheng, Guanfeng Liu, Jiajie Xu, Jian Wu, and Zhiming Cui |
| 4   | Assessment of Prediction Techniques: The Impact of Human Uncertainty               | Kevin Jasberg and Sergej Sizov  |

**16:00-17:30 Session 03: Data mining***Session Chair:* Prof. Minhua Lu

| No. | Title  | Authors  |
|-----|--|--|
| 1   | Incremental Structural Clustering for Dynamic Networks       | Yazhong Chen, Rong-Hua Li, Qiangqiang Dai, Zhenjun Li, Shaojie Qiao, and Rui Mao |
| 2   | Extractive Summarization Via Overlap-based Optimized Picking | Spatial Information Recognition on Web Documents using a Semi-Supervised         |
| 3   | Machine Learning Method                                      | Hendi Lie, Richi Nayak, and Gordon Wyeth   |
| 4   | When Will A Repost Cascade Settle Down?                      | Chi Chen, HongLiang Tian, Jie Tang, and ChunXiao Xing                            |

**16:00-17:30 Session 04: Event Detection***Session Chair:* Dr. Richi Nayak

| No. | Title   | Authors   |
|-----|---|---|
| 1   | Event Cubea Conceptual Framework for Event Modeling and Analysis  | Qing Li, Yun Ma, and Zhenguo Yang                                       |
| 2   | Cross-Domain and Cross-Modality Transfer Learning for Multi-Domain and Multi-Modality Event Detection (short paper) | Zhenguo Yang, Min Cheng, Qing Li, Yukun Li, Zehang Lin, and Wenying Liu |
| 3   | Determining Repairing Sequence of Inconsistencies in Content-related Data   | Yuefeng Du, Derong Shen, Tiezheng Nie, Yue Kou, and Ge Yu               |
| 4   | Efficient Approximate Entity Matching Using Jaro-Winkler Distance (id 104) (short paper)                            | Yaoshu Wang, Jianbin Qin, and Wei Wang                                  |

**11:00-12:30 Session 05: Spatial and Temporal Data***Session Chair:* Dr. Yanhua Cao

| No. | Title  | Authors   |
|-----|--|---|
| 1   | DTRP: A Flexible Deep Framework For Travel Route Planning                      | Jie Xu, Chaozhao Li, Senzhang Wang, Feiran Huang, Zhoujun Li, Yueying He, and Zhonghua Zhao |
| 2   | Efficient Order-sensitive Activity Trajectory Search                           | Kaiyang Guo, Rong-Hua Li, Shaojie Qiao, Zhenjun Li, Weipeng Zhang, and Minhua Lu            |
| 3   | Effective Caching of Shortest Travel-Time Paths for Web Mapping Mashup Systems | Detian Zhang, An Liu, Gangyong Jia, Fei Chen, Qing Li, and Jian Li                          |

**14:00-15:30 Session 06: Graph Theory***Session Chair: Dr. Tarique Anwar*

| No. | Title   | Authors  |
|-----|---|--|
| 1   | Discovering Hierarchical Subgraphs of K-Core-Truss  | Zhen-jun Li, Wei-Peng Zhang, Rong-Hua Li, Jun Guo, Xin Huang, and Rui Mao    |
| 2   | Efficient Subgraph Matching on Non-volatile Memory  | Yishu Shen and Zhaonian Zou  |
| 3   | Influenced Nodes Discovery in Temporal Contact Network  | Jinjing Huang, Tianqiao Lin, An Liu, Zhixu Li, Hongzhi Yin, and Lei Zhao     |
| 4   | Tracking Clustering Coefficient on Dynamic Graph via Incremental Random Walk (short paper)                  | Qun Liao, Lei Sun, Yunpeng Yuan, and Yulu Yang                               |
| 5   | Location-based Top-k Term Querying over Sliding Window  | Ying Xu, Lisi Chen, Bin Yao, Shuo Shang, Shunzhi Zhu, Kai Zheng, and Fang Li |
| 6   | A Kernel-based Approach to Developing Adaptable and Reusable Sensor Retrieval Systems for the Web of Things | Nguyen Khoi Tran, Quan Z. Sheng, M. Ali Babar, and Lina Yao                  |
| 7   | Reliable Retrieval of Top-k Tags  | Yong Xu, Reynold Cheng, and Yudian Zheng                                     |

**16:00-17:30 Session 07: Cloud Computing***Session Chair: Dr. Jinjing Huang*

| No. | Title   | Authors   |
|-----|---|---|
| 1   | Long-term Multi-Objective Task Scheduling with Diff-Serv in Hybrid Clouds         | Puheng Zhang, Chuang Lin, Wenzhuo Li, and Xiao Ma   |
| 2   | Online Cost-aware Service Requests Scheduling in Hybrid Clouds for Cloud Bursting | Yanhua Cao, Li Lu, Jiadi Yu, Shiyong Qian, Yanmin Zhu, Minglu Li, Jian Cao, Zhong Wang, Juan Li, and Guangtao Xue |
| 3   | Adaptive Deployment of Service-Based Processes into Cloud Federations             | Chahrazed Labba, Nour Assy, Narjs Bellamine Ben Saoud, and Walid Gaaloul  |
| 4   | Towards a Public Cloud Services Registry (short paper)                            | Ahmed Mohammed Ghamry, Asma Musabah Alkalbani, Vu Tran, Yi-Chan Tsai, My Ly Hoang, and Farookh Khadeer Hussain    |

**Session 08: Interchange session***Session Chair: Prof. Stanislav Klimenko*

| No. | Title  | Authors                          |
|-----|--|----------------------------------|
| 1   | BERyL: a System for Web Block Classification   | Andrey Kravchenko                |
| 2   | Analyses of the Dual Immune Roles Cytokines Play in Ischemic Stroke                                    | Yingying Wang                    |
| 3   | Taxi Route Recommendation Based on Urban Traffic Coulomb's Law   | Yingying Wang                    |
| 4   | Overlapping Communities Meet Roles and Respective Behavioral Patterns in Networks with Node Attributes | Gianni Costa and Riccardo Ortale |



**09:00-09:45 Invited Session 3: Professor Vladimir Burkov**  
**09:45-10:30 Invited Session 4: Professor Alexander Raikov**

**11:00-12:00 Session 09: Crowdsourcing and Crowdsensing**

*Session Chair: Prof. Alexander Raikov*

| No. | Title   | Authors                                   |
|-----|---|---|
| 1   | Real-time Target Tracking through Mobile Crowdsensing                                 | Jinyu Shi and Weijia Jia                  |
| 2   | Crowdsourced Entity Alignment: A Decision Theory Based Approach                       | Yan Zhuang, Guoliang Li, and Jianhua Feng |
| 3   | A QoS-aware Online Incentive Mechanism for Mobile Crowd Sensing (short paper)         | Hui Cai, Yanmin Zhu, and Jiadi Yu         |
| 4   | Iterative Reduction Worker Filtering for Crowdsourced Label Aggregation (short paper) | Jiyi Li and Hisashi Kashima               |

**Session 10: Web data model. Query Processing** *Session Chair: : Dr. Zou He*

| No. | Title  | Authors  |
|-----|--|--|
| 1   | Semantic Web Datatype Inference: Towards Better RDF Matching   | Irvin Dongo, Yudith Cardinale, Firas Al-Khalil, and Richard Chbeir           |
| 2   | How fair is your network to new and old objects? : A modelling of object selection in web based user-object networks (short paper) | Anita Chandra, Himanshu Garg, and Abyayananda Maiti                          |
| 3   | Location-based Top-k Term Querying over Sliding Window   | Ying Xu, Lisi Chen, Bin Yao, Shuo Shang, Shunzhi Zhu, Kai Zheng, and Fang Li |
| 4   | A Kernel-based Approach to Developing Adaptable and Reusable Sensor Retrieval Systems for the Web of Things                        | Nguyen Khoi Tran, Quan Z. Sheng, M. Ali Babar, and Lina Yao                  |
| 5   | Reliable Retrieval of Top-k Tags   | Yong Xu, Reynold Cheng, and Yudian Zheng                                     |

**14:00-15:30 Session 11: Language Processing and Web Protocols** *Session Chair: Dr. Lei Niu*

| No. | Title   | Authors   |
|-----|---|---|
| 1   | Eliminating Incorrect Cross-Language Links in Wikipedia (short paper)   | Nacéra Bennacer, Francesca Bugiotti, Jorge Galicia, Mariana Patricio, and Gianluca Quercini |
| 2   | Combining Local and Global Features in Supervised Word Sense Disambiguation   | Xue Lei, Yi Cai, Qing Li, Haoran Xie, Ho-fung Leung, and Fu Lee Wang                        |
| 3   | A Concurrent Interdependent Service Level Agreement Negotiation Protocol in Dynamic Service-oriented Computing Environments | Lei Niu, Fenghui Ren, and Minjie Zhang  |
| 4   | A New Static Web Caching Mechanism based on Mutual Dependency between Result Cache and Posting List Cache (short paper)     | Thanh Trinh, Dingming Wu, and Joshua Zhexue Huang   |

**16:00-17:30 Session 12: Web-based Applications**

*Session Chair: Dr. Andrey Kravchenko*

| No. | Title  | Authors  |
|-----|--|--|
| 1   | A Large-Scale Visual Check-In System for TV Content-Aware Web with Client-Side Video Analysis Offloading | Shuichi Kurabayashi and Hiroki Hanaoka               |
| 2   | The Automatic Development of SEO-friendly Single Page Applications Based on HIJAX Approach (short paper) | Siamak Hatami  |
| 3   | Towards Effective web crawling - A theme weight and Bayesian Page Rank based approach (short paper)      | Yan Tang, Lei Wei, Wangsong Wang, and Pengcheng Xuan |

**11:00-12:00 Session 13: Data Storage and Generator. Sentiment Analysis**

*Session Chair: Dr. Peng Cai*

| No. | Title  | Authors  |
|-----|--|--|
| 1   | Efficient Multi-Version Storage Engine for Main Memory Data Store  | Jinwei Guo, Bing Xiao, Peng Cai, Weining Qian, and Aoying Zhou   |
| 2   | WeDGeM: A Domain-specific Evaluation Dataset Generator for Multilingual Entity Linking Systems (short paper) | Emrah Inan and Oguz Dikenelli  |
| 3   | SGMR: Sentiment-aligned Generative Model for Reviews (short paper)   | He Zou, Litian Yin, Dong Wang, and Yue Ding  |
| 4   | An Ontology-Enhanced Hybrid Approach to Aspect-Based Sentiment Analysis (short paper)                        | Daan de Heij, Artiom Troyanovsky, Cynthia Yang, Milena Zychlinsky Schar, Kim Schouten, and Flavius Frasincar |

## 12:00-13:00 Session 14: Security and Privacy

*Session Chair:* Dr. Maria Berberova

| No. | Title  | Authors  |
|-----|--|--|
| 1   | PrivacySafer: Privacy Adaptation for HTML5 Web Applications                              | Georgia M. Kapitsaki and Theodoros Charalambous                            |
| 2   | Anonymity-based Privacy-preserving Task Assignment in Spatial Crowdsourcing              | Yue Sun, An Liu, Zhixu Li, Guanfang Liu, Lei Zhao, and Kai Zheng           |
| 3   | Understanding Evasion Techniques that Abuse Differences among JavaScript Implementations | Yuta Takata, Mitsuaki Akiyama, Takeshi Yagi, and Takeo Hairu, Shigeki Goto |
| 4   | Mining Representative Patterns Under Differential Privacy (short paper)                  | Xiaofeng Ding, Long Chen, and Hai Jin                                      |
| 5   | A Survey on Security as a Service (short paper)  | Wenyuan Wang and Sira Yongchareon  |

## 14:00-15:30 Session 15: Recommender Systems 1

*Session Chair:* Dr. Georgia Kapitsaki

| No. | Title  | Authors   |
|-----|--|---|
| 1   | Local Top-N Recommendation via Rened Item-User Bi-Clustering                                       | Yuheng Wang, Xiang Zhao, Yifan Chen, Wenjie Zhang, and Weidong Xiao |
| 2   | HOMMIT: A Sequential Recommendation for Modeling Interest-transferring via High-order Markov Model | Yang Xu, Xiaoguang Hong, Zhaohui Peng, Yupeng Hu, and Guang Yang    |
| 3   | Modeling Implicit Communities in Recommender Systems   | Xiao Lin and Zhaoquan Gu  |
| 4   | Coordinating Disagreement and Satisfaction in Group Formation for Recommendation                   | Xiao Lin and Zhaoquan Gu  |

## 16:00-17:30 Session 16: Recommender Systems 2

*Session Chair:* Dr. Sergej Sizov

| No. | Title   | Authors   |
|-----|---|---|
| 1   | Factorization Machines Leveraging Lightweight Linked Open Data-enabled Features for Top-N Recommendations | Guangyuan Piao and John G. Breslin  |
| 2   | A Fine-grained Latent Aspects Model for Recommendation: Combining Each Rating with Its Associated Review  | Xuehui Mao, Shizhong Yuan, Weimin Xu, and Daming Wei                          |
| 3   | Auxiliary Service Recommendation for Online Flight Booking (short paper)                                  | Hongyu Lu, Jian Cao, Yudong Tan, and Quanwu Xiao                              |
| 4   | How does Fairness matter in Group Recommendation (short paper)  | Xiao Lin and Zhaoquan Gu  |
| 5   | Exploiting Users' Rating Behaviour to Enhance the Robustness of Social Recommendation (short paper)       | Zizhu Zhang, Weiliang Zhao, Jian Yang, Surya Nepal, Cecile Paris, and Bing Li |

