

2017 International Conference on Behavioral, Economic, Socio-Cultural Computing (BESC 2017)

**Krakow, Poland
16 – 18 October 2017**



**IEEE Catalog Number: CFP17BES-POD
ISBN: 978-1-5386-2367-1**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP17BES-POD
ISBN (Print-On-Demand):	978-1-5386-2367-1
ISBN (Online):	978-1-5386-2365-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com



Table of Contents

Organizing Committee

Program Committee

Preface

Keynote Speeches

- 1 *Piotr Faliszewski*, How to Choose a Committee Based on Agents' Preferences?
- 2 *Olivier Boissier*, Ethics by Reasoning in Socio-Technical and Cognitive Systems
- 3 *Przemysław Kazienko*, Computational Network Science: from Data to Social Models

Main Tracks

Behavioral and Economic Computing

- 1 *Svitlana Galeshchuk and Yves Demazeau*, Forecasting Hungarian Forint Exchange Rate with Convolutional Neural Networks.....5
- 2 *Yunfei Hou, Jianbo Gao, Fangli Fan, Feiyan Liu and Changqing Song*, Identifying Herding effect in Chinese stock market by High-frequency data.....8
- 3 *Jun Kiniwa, Kensaku Kikuta and Hiroaki Sandoh*, Equilibrium Bidding Protocols for Price Stabilization in Networks.....13
- 4 *Jarosław Koźlak and Małgorzata Żabińska*, Agent-based simulation of road traffic using market approach.....19
- 5 *Shaowu Liu, Guandong Xu, Xiao Zhu and Zili Zhou*, Towards Simplified Insurance Application via Sparse Questionnaire Optimization.....25
- 6 *Hungwen Lin, Jingbo Huang and Kunben Lin*, Causalities among Momentum, Transparency and Media in China.....27
- 7 *Khaled Shaalan, Sinan Alsheikh and Farid Meziane*, Consumers' Trust and Popularity of Negative Posts in Social Media: A Case Study on the integration between B2C and C2C Business Models.....34

8 *Nhi N.Y. Vo and Guandong Xu*, The volatility of Bitcoin returns and its correlation to financial markets.....40

Digital Humanities

1 *Bin Li, Lu Wang, Yuan Wen, Xiaohe Chen and Yanhui Gu*, Discover Social Relations and Activities from Ancient Chinese History Book Zuo Zhuan.....49

2 *Menglan Ma, Peng Fang, Jianbo Gao and Changqing Song*, Does ideology affect the tone of international news coverage?.....54

Information Management and Systems

1 *Andrzej Opaliński, Barbara Mrzygłód, Mirosław Głowacki, Krzysztof Regulski, Aleksander Kania, Paweł Nastalek, Natalia Celejewska-Wójcik, Grażyna Bochenek and Krzysztof Śladek*, The system for integration of heterogeneous data sources in the domain of Obstructive Sleep Apnea.....61

2 *Zhongwei Xie, Lin Li, Yueqing Sun, Wangping Li and Guiming Xu*, Urban Emergency Evacuation Strategy.....67

Social Computing and Applications

1 *Zemin Bao, Yun Liu, Hui Liu, Zhenjiang Zhang, Bo Shen and Junjun Cheng*, Leveraging adaptive peeking window to improve Self-Exciting Point Process model for popularity prediction.....75

2 *Bogdan Gliwa, Anna Zygmunt, Bartosz Grabski, Maria Stojkow and Dorota Żuchowska-Skiba*, Comparison of group discovery methods on datasets with ground-truth.....81

3 *Yang Liu, Lin Li, Zhongwei Xie, Ge Zhu and Guiming Xu*, Urban Emergency Shelter Site Selection.....87

4 *Amartya Sanyal, Sanjana Garg, Asim Unmesh and Harish Karnick*, Agent based simulation of evolution of society as an alternate maximization problem.....93

User Modeling, Privacy, and Ethics

1 *Huifang Li, Yidong Li, Wenhua Liu and Hairong Dong*, Coarse-to-fine Facial Landmarks Localization based on Convolutional Feature.....103

2 *Pan Liao, Yuan Sun, Shiwei Ye, Xin Li, Guiping Su and Yi Sun*, 'Predicting Learners' Multi-Question Performance Based on Neural Networks.....N/A

3 *Zili Zhou, Guandong Xu, Xiao Zhu and Shaowu Liu*, Latent Factor Analysis for Low-dimensional Implicit Preference Prediction.....109

Applications

- 1 *Szymon Brandys, Lukasz Cmielowski, Marcin Solarzski and Umit Cakmak*, From Model Building to Analytics Solution in Hours. The Enterprise Platform for Analytics Teams.....113
- 2 *Charles Chu, James Brownlow, Qinxue Meng, Bin Fu, Ben Culbert, Min Zhu, Guandong Xu and Xuezhong He*, Combining Heterogeneous Features for Time Series Prediction.....116
- 3 *Robert Chwastek*, Cognitive Systems in Human Resources.....118
- 4 *Jas Semrl and Alexandru Matei*, Churn Prediction Model for Effective Gym Customer Retention.....122
- 5 *Chennan Zhou, Feiyan Liu, Jianbo Gao and Changqing Song*, Can Bayesian Poisson Tensor Factorization automatically extract interesting events from massive media reports?.....125
- 6 *Andrzej Wróbel, Krzysztof Rudek and Konrad Komnata*, IBM data governance solutions.....129

Special Tracks

Artificial Intelligence Methods for Analyzing Social Events

- 1 *Ling Tan, Shihan Wang and Takao Terano*, Study the Social Networks Based on Japanese Social Events from Name Card Data.....137
- 2 *Xinda Wang, Xuri Tang and Weiguang Qu*, Word Sense Disambiguation by Semantic Inference.....142
- 3 *Yiming Wei and Wenyong Weng*, The Influence of "Internet Plus" on China's Tourism: Evolution and Breakthrough.....148
- 4 *Hongwei Yin and Ye Zhu*, The Influence of Big Data and Informatization on Tourism Industry.....153
- 5 *Rucui Zhou, Kuojian Lu, Jiaying Lu, Xinghua Cheng, Di Hu and Yanhui Gu*, A Survey on Social Image Understanding.....158

"Healthcare Analytics" - Improving Healthcare using Big Data Analytics

- 1 *Muhammad Irfan and Ibrahim A. Hameed*, Deep Learning based Classification for Healthcare Data Analysis System.....165
- 2 *Uma-E-Hani Kazmi, Saeeda Naz, and Ibrahim A. Hameed*, Automated Techniques for Brain Tumor Segmentation and Detection: A Review Study.....171
- 3 *Hadi Mohammed, Ibrahim A. Hameed and Razak Seidu*, Random Forest Tree for Predicting Fecal Indicator Organisms in Drinking Water Supply.....177

Social Media, Crowd Psychology and Public Opinion

- 1 *Lingnan He, Haoshen Yang, Zhiwei Lin, Kaisheng Lai and Zhian Zhang*, Can Nationalistic Information Spread Like Virus? A Cascade Tree Analysis of Diffusion Pattern on WeChat Moments.....185

- 2 *Kaisheng Lai, Haoshen Yang, Lingnan He, Weiming Lu and Hao Chen*, Who would Prefer to Mention You on the Urban Microblog Mention Network? Evidence from Sina Microblog Data across 94 Cities in China.....191
- 3 *Liang Liu, Bin Chen, Wangchun Jiang, Xiaogang Qiu, Lingnan He and Kaisheng Lai*, Modeling of Political Web Pages Spreading in WeChat Networks.....197
- 4 *I-Hsien Ting, Wun Sheng Liou, Dario Liberona, Shyue-Liang Wang and Giovanni Mauricio Tarazona Bermudez*, Towards the Detection of Cyberbullying Based on Social Network Mining Techniques.....203
- 5 *Ting Xue and Huiqi Liu*, Prediction of Social Risk Perception on Petition in China.....205
- 6 *Wenjie Zheng, Zenan Xu, Yanghui Rao, Haoran Xie, Fu Lee Wang and Reggie Kwan*, Sentiment Classification of Short Text Using Sentimental Context.....211

Sociological Theories in Social Media Analysis in the Context of Information Technology Development

- 1 *Klaus Müller*, The Post-Privacy Doctrine and the Asymmetric Symbiosis of Firms, Consumers and the State.....219
- 2 *Łukasz Oliwa and Jarosław Koźlak*, Anomaly detection in dynamic social networks for identifying key events.....225
- 3 *Anna Olszewska and Joanna Gancarczyk*, Content Based Image Retrieval for Digital Humanities:Towards the Visual Studies Toolkit.....231
- 4 *Krzysztof Rudek and Jarosław Koźlak*, The influence of relationships strength on their duration in blogosphere.....234
- 5 *Seweryn Rudnicki*, Transfer or Translation? The Actor-Network Theory Approach to the Social Impact of Science.....240