Table of Contents

Preface ......................................................................................................................................................... ix
Conference Organizing Committee ........................................................................................................... xi
Workshops Organizing Committees ........................................................................................................ xii
Steering Committee ................................................................................................................................... xiii
Program Committee .................................................................................................................................. xiv
Reviewers ................................................................................................................................................. xviii
Tutorials ..................................................................................................................................................... xix

WPSM 2016
Mining Cognitive Skills Levels of Knowledge Units in Text Using Graph Tringularity Mining ........................................................... 1  
   Fatema Nafa, Javed I. Khan, Salem Othman, and Amal Babour

Toward Detecting Malicious Links in Online Social Networks through User Behavior .......................................................... 5  
   Bandar Alghamdi, Jason Watson, and Yue Xu

NLPOE 2016
Building a Chinese Dependency GraphBank ........................................................................................................... 9  
   Bin Li, Yuan Wen, Cuijuan Xing, Yichu Zhou, and Dekuan Xu

An Experiment of Computer-aided Translation of Chinese Existential Sentences ................................................. 13  
   Dekuan Xu

Automatic Acquisition of Matching Patterns for Pattern-Based Parsing on Specific Chinese Text ............................................. 17  
   Jing He, Tianbao Song, Weiming Peng, Qiaoyi Sheng, and Jihua Song

Simple Interrogative Sentence Analysis Based on CRF ....................................................................................... 21  
   Wang Zheng, Zhu Lijun, Xu Shuo, Zhang Ning, Yan Yingying, and Li Weifeng
Graph-Based Ranking on Chinese Product Features with a General Structure
for Noun Phrases
Ge Xu and Jinglan Wu

Feature Representation Models for Cyber Attack Event Extraction
Xinying Qiu, Xiaoxin Lin, and Likun Qiu

**CMDWM 2016**

v-Structural Nonparallel Support Vector Machine for Pattern Classification
Dandan Chen and Yingjie Tian

Robust Unsupervised Feature Learning from Time-Series
Jianyu Miao, Yong Shi, and Lingfeng Niu

The Study of Model for Power Grid Diagnosis Based on Naive Bayes Theory
Wei Song, Geng Wu, Luyao Zhu, and Shaojie Chi

Aging Cognitive Influence Factors Analysis Based on Propensity Score
Mengyan Feng, Aihua Li, Jianbing Liu, and Meihong Zhu

Statistical Sparse Independence Rule for High-Dimensional Classification
Liping Wang, Changtai Ji, Shanggao Xie, and Qi Zhang

Scale Expansion and Operations Inefficiency in Pure E-commerce Firms
Zhuofan Yang and Yong Shi

The Influence of Investor Attention on Return and Volatility of Stock Market
Wen Long, Bin Wang, and Lingxiao Cui

**EdRecSys 2016**

Educational Recommendation with Multiple Stakeholders
Robin Burke and Himan Abdollahpouri

Recommender System to Support Brokering of Youth Learning Opportunities
Taha Hamid, Denise C. Nacu, Taihua Li, Jonathan Gemmell,
Daniela Stan Raicu, Caitlin K. Martin, Michael Schutzenhofer, and Nichole Pinkard

Collaborative Recommendation of Informal Learning Experiences
Robin Burke and Farzad Eskandanian

**IoA 2016**

An Analysis of Norm Processes in Normative Multi-agent Systems
Alana Oliveira and Rosario Girardi

Reputation-Based Distributed Coordination for Heterogeneous Autonomous Agents
Predrag T. Tošić
Semantic Agent Contracts for Internet of Agents ..............................................................76
  Pablo Pico-Valencia and Juan A. Holgado-Terriza

IoT-a, Embedded Agents for Smart Internet of Things. Application on a Display
Wall .................................................................................................................................80
  Florent Carlier and Valérie Renault

PASSCR 2016

Development and Evaluation of an Operational Service Robot Using
Wikipedia-Based and Domain Ontologies ........................................................................84
  Hiroshi Asano, Takeshi Morita, and Takahira Yamaguti

Toward Performance-Oriented Ontology Debugging Support Using Heuristic
Approaches and DL Reasoning .......................................................................................88
  Naoki Yamada and Naoki Fukuta

Toward a Flexible Ability Selection Mechanism for Personal Assistant Agent
using Ontology Reasoning .............................................................................................92
  Sho Oishi and Naoki Fukuta

Towards Better Query Coding Support Utilizing Ontology Mappings .........................96
  Takuya Adachi, Naoki Yamada, and Naoki Fukuta

Implementation and Evaluation of Classroom AI in PRINTEPS ................................100
  Chihiro Nishimoto, Shunsuke Akashiba, Takeshi Moritay, and Takahira Yamaguchi

Advanced Methods in Optimization and Machine Learning
2016

Based on Linux Kernel System Call Graphs ...................................................................104
  Shifu Hou, Aaron Saas, Lifei Chen, and Yanfang Ye

Double-Hypergraph Based Sentence Ranking for Query-Focused
Multi-document Summarization .....................................................................................112
  Xiaoyan Cai, Junwei Han, Lei Guo, and Libin Yang

A Hybrid Recommendation Model Based on Weighted Bipartite Graph
and Collaborative Filtering ..........................................................................................119
  Xiaohui Hu, Zichao Mai, Haolan Zhang, Yun Xue, Weixin Zhou, and Xin Chen

Audio-Visual Speaker Recognition via Multi-modal Correlated Neural Networks ..........123
  Jiajia Geng, Xin Liu, and Yiu-ming Cheung

A Decomposition-Based Constraint-Handling Technique for Constrained
Multi-objective Optimization .......................................................................................129
  Chaoda Peng and Hai-Lin Liu