2012 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology

(WI-IAT 2012)

Macau, China
4 - 7 December 2012

Volume 1
Pages 1-738

IEEE Catalog Number: CFP12WEB-PRT
ISBN: 978-1-4673-6057-9

2012 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology

WI-IAT 2012

Table of Contents

Volume - 1

WI 2012 Welcome Message from Conference Chairs and Program Chairs xiii

WI 2012 Conference Organization xv

WI 2012 Program Committee Members xvii

WI 2012 Non-PC Reviewers xxi

WI 2012 Sponsors xxii

2012 IEEE/WIC/ACM International Conference on Web Intelligence

Session WI-S1: Web Mining and Farming 1

Disambiguating Implicit Temporal Queries by Clustering Top Relevant Dates in Web Snippets 1
Ricardo Campos, Alípio Mário Jorge, Gaël Dias, and Célia Nunes

Unsupervised Feature Selection with Feature Clustering 9
Yiu-Ming Cheung and Hong Jia

Event Duration Detection on Microblogging 16
Yi-Shiang Tzeng, Jyun-Yu Jiang, and Pu-Jen Cheng

A Comparative Study of Cross-Lingual Sentiment Classification 24
Xiaojun Wan

The Retrieval of Important News Stories by Influence Propagation among Communities and Categories 32
Yu-Fan Lin and Hung-Yu Kao

An MCL-Based Text Mining Approach for Namesake Disambiguation on the Web 40
Tarique Anwar and Muhammad Abulaish

Construction of Chinese A-shares Network Using Latent Dirichlet Allocation 45
Mingmin Chi, Jun Liu, Huijun He, Jiangfeng Bao, and Yangyong Zhu

A Fast and Accurate Method for Bilingual Opinion Lexicon Extraction 50
Zheng Lin, Songbo Tan, and Xueqi Cheng

Session WI-S2: Semantics and Ontology Engineering 1

TaxoLearn: A Semantic Approach to Domain Taxonomy Learning 58
Emmanuelle-Anna Dietz, Damir Vandic, and Flavius Frasincar

Accuracy vs. Speed: Scalable Entity Coreference on the Semantic Web with On-the-Fly Pruning 66
Dezhao Song and Jeff Heflin

RCQ-ACS: RDF Chain Query Optimization Using an Ant Colony System 74
Alexander Hogenboom, Ewout Niewenhuijse, Frederik Hogenboom, and Flavius Frasincar

Entity Disambiguation with Freebase 82
Zhicheng Zheng, Xiance Si, Fangtao Li, Edward Y. Chang, and Xiaoyan Zhu

An Empirical Analysis of Semantic Techniques Applied to a Network Management Classification Problem 90
Aidan Boran, Ivan Bedini, Christopher J. Matheus, Peter F. Patel-Schneider, and Stefan Bischof

Approximating Linear Order Inference in OWL 2 DL by Horn Compilation 97
Jianfeng Du, Guilin Qi, Jeff Z. Pan, and Yi-Dong Shen

Session WI-S3: Web Information Retrieval and Filtering 1

Term Weighting Schemes for Emerging Event Detection 105
Yanghui Rao and Qing Li

A Generalized Links and Text Properties Based Forum Crawler 113
Amit Sachan, Wee-Yong Lim, and Vrizlynn L.L. Thing

KGRAM Versatile Inference and Query Engine for the Web of Linked Data 121
Olivier Corby, Alban Gaignard, Catherine Faron Zucker, and Johan Montagnat

Automatic Extraction of Blog Post from Diverse Blog Pages 129
Chia-Hui Chang and Jhih-Ming Chen

Learning User Preference Patterns for Top-N Recommendations 137
Yongli Ren, Gang Li, and Wanlei Zhou

Ranking Text Documents Based on Conceptual Difficulty Using Term Embedding and Sequential Discourse Cohesion 145
Shoaib Jameel, Wai Lam, and Xiaojun Qian

Towards Topic Trend Prediction on a Topic Evolution Model with Social Connection 153
Jiangfeng Chen, Jianjun Yu, and Yi Shen

Session WI-S4: Web Mining and Farming 2

Fusing Text and Frienships for Location Inference in Online Social Networks 158
Hansu Gu, Haojie Hang, Qin Lv, and Dirk Grunwald

Featured Tweet Search: Modeling Time and Social Influence for Microblog Retrieval 166
Lamjed Ben Jabeur, Lynda Tamine, and Mohand Boughanem

Sentiment Analysis of Turkish Political News 174
Mesut Kaya, Güven Fidan, and Ismail H. Toroslu

Towards the Optimal Discriminant Subspace 181
Xichuan Zhou, Ping Gan, Chao Yan, and Guojun Li

Polarity Analysis for Food and Disease Relationships 188
Qingliang Miao, Shu Zhang, Yao Meng, and Hao Yu

Inferring User Interest Using Familiarity and Topic Similarity with Social Neighbors in Facebook 196
Dabi Ahn, Taehun Kim, Soon J. Hyun, and Dongman Lee

Using Patterns Co-occurrence Matrix for Cleaning Closed Sequential Patterns for Text Mining 201
Mubarak Albathan, Yuefeng Li, and Abdulmohsen Algarni

Session WI-S5: Social Networks and Ubiquitous Intelligence

Selective Behavior in Online Social Networks 206
Chunjing Xiao, Ling Su, Juan Bi, Yuxia Xue, and Aleksandar Kuzmanovic

Tweets Beget Propinquity: Detecting Highly Interactive Communities on Twitter Using Tweeting Links 214
Kwan Hui Lim and Amitava Datta

Community Extracting Using Intersection Graph and Content Analysis in Complex Network 222
Toshiya Kuramochi, Naoki Okada, Kyohei Tanikawa, Yoshinori Hijikata, and Shogo Nishida

Predicting Stock Market Using Online Communities Raw Web Traffic 230
Pierpaolo Dondio

Hierarchical Clustering Based on Hyper-edge Similarity for Community Detection 238
Qing Cheng, Zhong Liu, Jincai Huang, Cheng Zhu, and Yanjun Liu

Analysis of Discussion Page in Wikipedia Based on User's Discussion Capability 243
Sungmin Joo and Hideaki Takeda

Biological Mutualistic Models Applied to Study Open Source Software Development 248
Pablo Loyola and In-Young Ko

Session WI-S6: Web Information Retrieval and Filtering 2

A Website Content Analysis Approach Based on Keyword Similarity Analysis 254
Shruti Kohli, Sandeep Kaur, and Gurrajan Singh

Serendipitous Personalized Ranking for Top-N Recommendation 258
Qiuxia Lu, Tianqi Chen, Weinan Zhang, Diyi Yang, and Yong Yu

Effectively Detecting Content Spam on the Web Using Topical Diversity Measures 266
Cailing Dong and Bin Zhou

Document Re-ranking Using Partial Social Tagging 274
Peng Li, Jian-Yun Nie, Bin Wang, and Jing He

A Double-Ranking Strategy for Long-Tail Product Recommendation 282
Mi Zhang, Neil Hurley, Wei Li, and Xiangyang Xue

Social Recommendations for Location-Based Services 287
Andreas Emrich, Alexandra Chapko, Dirk Werth, and Peter Loos

Content-Based Semantic Tag Ranking for Recommendation 292
Miao Fan, Qiang Zhou, and Thomas Fang Zheng

Session WI-S7: Web Mining and Farming 3

Brand-Related Events Detection, Classification and Summarization on Twitter 297
Eric Medvet and Alberto Bartoli

Intuitive Topic Discovery by Incorporating Word-Pair's Connection Into LDA 303
Dandan Zhu, Yusuke Fukazawa, Eleftherios Karapetsas, and Jun Ota

Location Comparison through Geographical Topics 311
Jeong-Woo Son, Yun-Seok Noh, Hyun-Je Song, and Seong-Bae Park

Mining Publication Records on Personal Publication Web Pages Based on Conditional Random Fields 319
Jen-Ming Chung, Ya-Huei Lin, Hahn-Ming Lee, and Jan-Ming Ho

Verb Oriented Sentiment Classification 327
Mostafa Karamibekr and Ali A. Ghorbani

Mining Criminal Networks from Chat Log 332
Farkhund Iqbal, Benjamin C.M. Fung, and Mourad Debbabi

Session WI-S8: Intelligent Human-Web Interaction

Cognitive Resource-Aware Adaptive Web Service Binding and Scheduling 338
Angel Jimenez-Molina, Jang-Ho Choi, Jorge Gaete-Villegas, and In-Young Ko

Unsupervised Emotion Detection from Text Using Semantic and Syntactic Relations 346
Ameeta Agrawal and Aijun An

Toward the Design of a Recommender System: Visual Clustering and Detecting Community Structure in a Web Usage Network 354
Leyla Zhuhadar, Rong Yang, and Olfa Nasraoui

Answering Typicality Query Based on Automatically Prototype Construction 362
Yi Cai, Hongke Zhao, Hao Han, Raymond Y.K. Lau, Ho-Fung Leung, and Huaqing Min

A Ubiquitous Image Tagging System Using User Context 367
Shatabdi Kundu and Santanu Chaudhury

Session WI-S9: Web Mining and Farming 4

NE-Rank: A Novel Graph-Based Keyphrase Extraction in Twitter 372
Abdelghani Bellaachia and Mohammed Al-Dhelaan

Malicious URL Detection Based on Kolmogorov Complexity Estimation 380
Hsing-Kuo Pao, Yan-Lin Chou, and Yuh-Jye Lee

Batch-Mode Active Learning with Semi-supervised Cluster Tree for Text Classification 388
Zhaocai Sun, Yunming Ye, Xiaofeng Zhang, Zhexue Huang, Shudong Chen, and Zhi Liu

Local Tangent Distances for Classification Problems 396
Jian Yang, Kexin Zhu, and Ning Zhong

Context Aware Named Entity Disambiguation 402
Ivo Lašek and Peter Vojtáš

Understanding the Regularity and Variability of Human Mobility from Geo-trajectory 409
Yunji Liang, Xingshe Zhou, Bin Guo, and Zhiwen Yu

Session WI-S10: Web Information Retrieval and Filtering 3

E-rank: A Structural-Based Similarity Measure in Social Networks 415
Mingxi Zhang, Zhenying He, Hao Hu, and Wei Wang

Link Prediction Using BenefitRanks in Weighted Networks 423
Zhijie Lin, Xiong Yun, and Yangyong Zhu

A Comparison Study for Novelty Control Mechanisms Applied to Web News Stories 431
Arnout Verheij, Allard Kleijn, Flavius Frasincar, and Frederik Hogenboom

Personalized News Recommendation Based on Collaborative Filtering 437
Florent Garcin, Kai Zhou, Boi Faltings, and Vincent Schickel

User Interest and Topic Detection for Personalized Recommendation 442
Xuning Tang, Mi Zhang, and Christopher C. Yang

Detecting Places of Interest Using Social Media 447
Steven Van Canneyt, Steven Schockaert, Olivier Van Laere, and Bart Dhoedt

Rating Prediction by Correcting User Rating Bias 452
Masanao Ochi, Yutaka Matsuo, Makoto Okabe, and Rikio Onai

Predicting Best Responder in Community Question Answering Using Topic Model Method 457
Tong Zhao, Chunping Li, Mengya Li, Siyang Wang, Qiang Ding, and Li Li

Conceptualization Effects on MEDLINE Documents Classification Using Rocchio Method 462
Shereen Albitar, Sebastien Fournier, and Bernard Espinasse

Keyword Proximity Search over Large and Complex RDF Database 467
Zhen Niu, Hai-Tao Zheng, Yong Jiang, Shu-Tao Xia, and Hui-Qiu Li

Session WI-S11: Web Mining and Farming 5

Support for Video Hosting Service Users Using Folksonomy and Social Annotation 472
Katsunori Ishino, Ryohei Orihara, Hiroyuki Nakagawa, Yasuyuki Tahara, and Akihiko Ohsuga

A Modularity Maximization Algorithm for Community Detection in Social Networks with Low Time Complexity 480
Mohsen Arab and Mohsen Afsharchi

Semantic Formalization of Cross-Site User Browsing Behavior 488
Julia Hoxha and Sudhir Agarwal

Flexible Algorithm Selection Framework for Large Scale Metalearning 496
Eugene Santos Jr., Alex Kilpatrick, Hien Nguyen, Qi Gu, Andy Grooms, and Chris Poulin

Extraction and Compilation of Events and Sub-events from Twitter 504
Arpit Khurdiya, Lipika Dey, Diwakar Mahajan, and Ishan Verma

The Mechanism of Information Resonance in Social Media 509
Takashi Ishikawa

Session WI-S12: Semantics and Ontology Engineering 2

Building Up a Class Hierarchy with Properties from Japanese Wikipedia 514
Takeshi Morita, Yuka Sekimoto, Susumu Tamagawa, and Takahira Yamaguchi

Enhancing LOD Complex Query Building with Context 522
Ricardo Brandão, Paulo Maio, and Nuno Silva

Semantic Labelling for Document Feature Patterns Using Ontological Subjects 530
Xiaohui Tao, Yyuefeng Li, Bin Liu, and Yan Shen

From DBpedia to Wikipedia: Filling the Gap by Discovering Wikipedia Conventions 535
Diego Torres, Pascal Molli, Hala Skaf-Molli, and Alicia Diaz

Analysing the Use of Ontologies Based on Usage Network 540
Jamshaid Ashraf and Omar Khadeer Hussain

Session WI-S13: Intelligent e-Technology

COMMA: A Result-Oriented Composite Autocompletion Method for E-marketplaces 545
Matteo Palmonari, Giuseppe Vizzari, Andrea Broglia, Nicola Lamberti, and Riccardo Porrini

Statistical and Structural Analysis of Web-Based Collaborative Knowledge Bases Generated from Wiki Encyclopedia 553
Yi Zeng, Hao Wang, Hongwei Hao, and Bo Xu

Latent Business Networks Mining: A Probabilistic Generative Model 558
Wenping Zhang, Raymond Y.K. Lau, Yunqing Xia, Chunping Li, and Wenjie Maggie Li

A Context-Aware Framework for Detecting Unfair Ratings in an Unknown Real Environment 563
Cheng Wan, Jie Zhang, and Athirai A. Irissappane

An Ontology-Based Mining of Consumer Feedbacks Using Fuzzy Reasoning 568
Lipika Dey, Sameera Bharadwaja H., and Shefali Bhat

An Intelligent System for Retrieving Economic Information from Corporate Websites 573
Josep Domenech, Bernardo de la Ossa, Ana Pont, Jose A. Gil, Milagros Martinez, and Alicia Rubio

Causal Graph Based Dynamic Optimization of Hierarchies for Factored MDPs 579
Hongbing Wang, Jiancai Zhou, and Xuan Zhou

Choreographing Web Services with Semantically Enhanced Scripting 583
Xi Bai, Ewan Klein, and Dave Robertson

Session WI-S14: Web Information Retrieval and Filtering 4

Extracting Web News Using Tag Path Patterns 588
Gongqing Wu and Xindong Wu

Recommending Inexperienced Products via Learning from Consumer Reviews 596
Feng Wang and Li Chen

Dynamically Adaptive User Profiling for Personalized Recommendations 604
Muhammad Ali Zeb and Maria Fasli

Service Selection Based on Similarity Measurement for Conditional Qualitative Preference 612
Hongbing Wang, Jie Zhang, Hualan Wang, Yangyu Tang, and Guibing Guo

Enhancing Accuracy of Topic Sensitive PageRank Using Jaccard Index and Cosine Similarity 620
Mojtaba Rezvani and S. Mehdi Hashemi

A Topic Model for Recommending Movies via Linked Open Data 625
Yutaka Kabutoya, Robert Sumi, Tomoharu Iwata, Toshio Uchiyama, and Tadasu Uchiyama

WI/IAT 2012 Industry

A Re-configurable Context-Aware Engine for Mobile Devices 631
Sangdo Park and Su Myeon Kim

Context Aware Intelligent Mobile Platform for Local Service Utilization 635
Paul Barom Jeon

WI/IAT 2012 Demo

Flickr Retriever—Fast Retrieval of Flickr Photos 639
David Edmundson and Gerald Schaefer

Vizpicious: A Visual User-Adaptive Tool for Communication Logs Analysis and Suspicious Behavior Detection 641
Amyn Bennamane, Hakim Hacid, Arnaud Ansiaux, and Alain Cagnati

Special Session: Intelligent Methodology and Applications—Part I

Power Allocation Algorithm Based on Non-cooperative Game Theory for LTE Downlink 643
Yaping Tian, Hailin Liu, and Zhirong Li

An Energy and Data Locality Aware Bi-level Multiobjective Task Scheduling Model Based on MapReduce for Cloud Computing 648
Xiaoli Wang and Yuping Wang

A New Architecture of an Intelligent Agent-Based Crawler for Domain-Specific Deep Web Databases 656
Yanni Li, Yuping Wang, and Erfeng Tian

Sample Outlier Detection Based on Local Kernel Regression 664
Qinmu Peng and Yiu-Ming Cheung

S-SIFT: A Shorter SIFT without Least Discriminability Visual Orientation 669
Sheng-Hua Zhong, Yan Liu, and Gangshan Wu

Special Session: Intelligent Methodology and Applications—Part II

A Heuristic Reinforcement Learning Based on State Backtracking Method 673
Min Fang, Hao Li, and Xiaosong Zhang

Synchronizability and Navigability of Small-World Networks Generated by One Dimensional Kleinberg Model 679
Jingyi Wang, Chen Xu, and Jianwen Feng

A Genetic Algorithm to Filter SNPs for SNP Association Study 684
Junying Zhang, Shengli Jiang, Xiaoxue Zhao, and Lan Liu

Sensitivity Analysis of Fuzzy Inference Neural Network and the Application in Band Selection 688
Qiang Fan, Dan Hu, and Yan Xing

Semantic Similarity Analysis between High-Level Model Description Text and Low-Level Implementation Text for Network Survivability 694
Zhao Wei, Chunhe Xia, Qing Wei, Shan Yao, and Yujian Zhou

Special Session: Intelligent and Affective Computing

Customizable Surprising Recommendation Based on the Tradeoff between Genre Difference and Genre Similarity 702
Qianru Zheng and Horace H.S. Ip

Intelligent Evaluation Rules for Learning Objects 710
Martin M. Weng, Neil Y. Yen, Jason C. Hung, and Timothy K. Shih

Integrating Tags and Ratings Into User Profiling for Personalized Search in Collaborative Tagging Systems 716
Yi Cai, Hao Han, Jian Chen, Yifeng Shao, Ho-Fung Leung, and Huaqing Min

Detecting Common Interest Kernels in Large Social Networks 724
Weishu Hu, U. Leong Hou, and Zhiguo Gong

A Machine-Oriented Text Understanding Framework Based on Human Memory and Reading Process 732
Jun Zhang, Xiangfeng Luo, and Feiyue Ye

WI 2012 Author Index

2012 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology

(WI-IAT 2012)

Macau, China
4 - 7 December 2012

Volume 2
Pages 1-517

IEEE Catalog Number: CFP12WEB-PRT
ISBN: 978-1-4673-6057-9

2012 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology

WI-IAT 2012

Table of Contents

Volume - 2

IAT 2012 Welcome Message from Conference Chairs and Program Chairs xi

IAT 2012 Conference Organization xiii

IAT 2012 Program Committee Members xv

IAT 2012 Non-PC Reviewers xviii

IAT 2012 Sponsors xix

2012 IEEE/WIC/ACM International Conference on Intelligent Agent Technology

Session S1: Distributed Problem Solving

A Friction Based Social Force Model for Group Behaviors 1
Zhaofeng Li and Yichuan Jiang

Improving Asynchronous Partial Overlay 9
Roger Mailler

Join Me with the Weakest Partner, Please 17
Moshe Mash, Igor Rochlin, and David Sarne

Considering Equality on Distributed Constraint Optimization Problem for Resource Supply Network 25
Toshihiro Matsui and Hiroshi Matsuo

Maximum Flexibility and Optimal Decoupling in Task Scheduling Problems 33
Leon Endhoven, Tomas Klos, and Cees Witteveen

Improving Asynchronous Search for Distributed Generalized Assignment Problem 38
Tingting Sun, Yang Xu, and Qingyi He

Session S2: Applications

Why Do People Use Social Media? Agent-Based Simulation and Population Dynamics Analysis of the Evolution of Cooperation in Social Media 43
Fujio Toriumi, Hitoshi Yamamoto, and Isamu Okada

Hidden Source Behavior Change Tracking and Detection 51
Eugene Santos Jr., Qi Gu, Eunice E. Santos, and John Korah

Agent-Based Virtual Humans in Co-Space: An Evaluative Study 59
Yilin Kang, Ah-Hwee Tan, and Fiona Fui-Hoon Nah

Online Localized Resource Allocation Application to Urban Parking Management 67
Nesrine Bessghaier, Mahdi Zargayouna, and Flavien Balbo

Green-Waved Cooperative Coordination Algorithm for Decentralized Traffic Control 75
Yulin Zhang, Yang Xu, Tingting Sun, and Pengfei Liu

Predicting the State of a Person by an Office-Use Autonomous Mobile Robot 80
Asuki Kouno, Daisuke Takayama, and Einoshin Suzuki

A Mechanism for Organizing Last-Mile Service Using Non-dedicated Fleet 85
Shih-Fen Cheng, Duc Thien Nguyen, and Hoong Chuin Lau

Agent-Based Modeling and Simulation of Multi-organizational Interactions in International Trade 90
Jie Jiang, Virginia Dignum, Shengyu Wu, and Yao-Hua Tan

Session S3: Auctions and Negotiation

ABiNeS: An Adaptive Bilateral Negotiating Strategy over Multiple Items 95
Jianye Hao and Ho-Fung Leung

Reduction of Market Power and Stabilisation of Outcomes in a Novel and Simplified Two-Settlement Electricity Market 103
Nicolas Höning and Han La Poutré

On the Choice of Obtaining and Disclosing the Commonvalue in Auctions 111
Shani Alkoby, David Sarne, and Esther David

Knowledge-Driven Autonomous Commodity Trading Advisor 119
Yee Pin Lim and Shih-Fen Cheng

Hierarchical Negotiation Model for Complex Problems with Large-Number of Interdependent Issues 126
Xiaoqin Shelley Zhang and Mark Klein

Distributed Matching with Mixed Maximum-Minimum Utilities 134
Amos Azaria, David Sarner, and Yonatan Aumann

No More Damaging Ads on Your Own Webpage—Strategy Proof Mechanisms for Ad Placement 140
Esther David and Rina Azulay

Session S4: Autonomous Information and Knowledge Agents

Humans-Robots Sliding Collaboration Control in Complex Environments with Adjustable Autonomy 146
Nicolas Côté, Arnaud Canu, Maroua Bouzid, and Abdel-lillah Mouaddib

Multi-mode Natural Language Processing for Extracting Open Knowledge 154
Jiongkun Xie, Xiaoping Chen, Jianmin Ji, and Zhiqiang Sui

On the Role of Expectations in Multi-agent Reasoning and Decision Making 162
Quoc Bao Vo and Minyi Li

A Novel Meta Learning System and Its Application to Optimization of Computing Agents' Results 170
Ondřej Kazík, Klára Pešková, Martin Pilát, and Roman Neruda

Granular Computing Models in the Classification of Web Content Data 175
Saroj K. Meher, Sankar K. Pal, and Soumitra Dutta

Session S5: Coordination and Learning I

Modeling Agent Social Joint Actions via Micro and Macro Coordination Strategies 180
Seung In Park, Francis Quek, and Yong Cao

From Path to Individual: A Distributed Reputation Detection Model for Information Diffusion 188
Yifeng Zhou and Yichuan Jiang

Agent-Based Multi-organizational Interaction Design: A Case Study of the Dutch Railway System 196
Jie Jiang, Bob Huisman, and Virginia Dignum

Exploring the Importance of Information Relevance, Ontology and Utilities for Scalable Multi-agent Coordination 204
Yang Xu, Linglong Zhu, Xuemei Hu, and Mengjun Yang

Non-reciprocating Sharing Methods in Cooperative Q-Learning Environments 212
Bryan Cunningham and Yong Cao

Session S6: Agent and Multi-Agent Systems Modeling I

Decision as Choice of Potential Intentions 220
Xiaocong Fan

Behavior Abstraction Robustness in Agent Modeling 228
Robert Junges and Franziska Klügl

Initial Public Offering (IPO) Pricing Using a Multi-agent System 236
Badiâa Hedjazi, Mohamed Ahmed-Nacer, Samir Aknine, and Karima Benatchba

Learning Communication in Interactive Dynamic Influence Diagrams 243
Yifeng Zeng, Hua Mao, Prashant Doshi, Yinghui Pan, and Jian Luo

Close Encounters of the Agent Kind: Designing Agents for Effective Training 251
Frank Dignum, Virginia Dignum, and Catholijn M. Jonker

S7: Coordination and Learning II

Evaluating the Valuable Rules from Different Experience Using Multiparty Argument Games 258
Li Yao, Junyi Xu, Jinyang Li, and Xuetian Qi

A Hybrid Cooperative Behavior Learning Method for a Rule-Based Shout-Ahead Architecture 266
Sanjeev Paskaradevan and Jörg Denzinger

A Tensor Factorization Approach to Generalization in Multi-agent Reinforcement Learning 274
Stefano Bromuri

Adjusting Organization to Improve Coordination for Large Heterogeneous Multi-agent Teams 282
Yang Xu, Xiang Li, and Han Liang

Strategic Capability-Learning for Improved Multi-agent Collaboration in Ad-hoc Environments 287
Janyl Jumadinova, Prithviraj Dasgupta, and Leen-Kiat Soh

Production Scheduling in an Agile Agent-Based Production Grid 293
Leo van Moergestel, Erik Puik, Daniel Telgen, and John-Jules Meyer

Efficient Complex Tasks Allocation within Agents Environment of Known Capabilities 299
Esther David, Efrat Manisterski, Sarit Kraus, and Nicholas R. Jennings

Empirical Evaluation of Multi-Agent Routing Approaches 305
Adriaan ter Mors, Cees Witteveen, Charlotte Ipema, Frits de Nijs, and Theodor Tsiourakis

Social Networked Multi-agent Negotiation in Ontology Alignment 310
Nuno Luz, Nuno Silva, and Paulo Novais

Session S8: Autonomy-Oriented Computing

Reducing Correlated Failures Impact in Peer-to-Peer Storage Systems Using Mobile Agents Flocks 316
Benoît Romito and François Bourdon

Reorganization of Agent Networks with Reinforcement Learning Based on Communication Delay 324
Kazuki Urakawa and Toshiharu Sugawara

Knowledge-Based Exploration for Reinforcement Learning in Self-Organizing Neural Networks 332
Teck-Hou Teng and Ah-Hwee Tan

A Runtime Goal Conflict Resolution Model for Agent Systems 340
Xiaogang Wang, Jian Cao, and Jie Wang

Abstraction in Model Based Partially Observable Reinforcement Learning Using Extended Sequence Trees 348
Erkin Çilden and Faruk Polat

Churn Tolerance Algorithm for State Machine Replication 356
Yihua Ding, James Z. Wang, and Pradip K. Srimani

ARA*+: Improved Path Planning Algorithm Based on ARA* 361
Bo Li, Jianwei Gong, Yan Jiang, Hany Nasry, and Guangming Xiong

Session S9: System Engineering and Repeated Games

Oragentburg: A Platform Supporting Organisation-Based Programming 366
Yin Chan, Xinjun Mao, Cuiyun Hu, Huiping Zhou, and Jianmin Zhao

Evaluating the Applicability of Peer-Designed Agents in Mechanisms Evaluation 374
Avshalom Elmalech and David Sarne

Validation of a Model for Coping and Mood for Virtual Agents 382
Fiemke Both, Mark Hoogendoorn, and Michel C.A. Klein

Developing a Repeated Multi-agent Constant-Sum Game Algorithm Using Human Computation 390
Christopher G. Harris

On Finding and Learning Effective Strategies for Complex Non-zero-sum Repeated Games 395
Predrag T. Tošić, Philip C. Dasler, and Carlos Ordonez

Session S10: Agent and Multi-agent Systems Modeling II

A Multi-objective Incremental Path Planning Algorithm for Mobile Agents 401
Tuğcem Oral and Faruk Polat

A Multi Scale Cognitive Architecture to Account for the Adaptive and Reflective Nature of Behaviour 409
Othalia Larue, Pierre Poirier, and Roger Nkambou

Computational Analysis of the Impacts of Emotion on Learning in a Social Context 417
Jan Treur and Arlette Van Wissen

Improving Crowdsourcing Efficiency Based on Division Strategy 425
Huan Jiang and Shigeo Matsubara

Integrating Situation Awareness and Surprise: A Computational Agent Model 430
Tibor Bosse, Robbert-Jan Merk, and Jan Treur

Enhancing Ontology Alignment Recommendation by Exploring Emergent Social Networks 436
Virgínia Nascimento, Alda Canito, Maria João Viamonte, and Nuno Silva

Special Session: Online Social Network, Intelligent Data Processing, Multi-agent Systems

PMING Distance: A Collaborative Semantic Proximity Measure 442
Valentina Franzoni and Alfredo Milani

Inferring User Context from Spatio-Temporal Pattern Mining for Mobile Application Services 450
Daniel Pereira and Luis Loyola

A Personalized Recommendation Algorithm Based on Approximating the Singular Value Decomposition (ApproSVD) 458
Xun Zhou, Jing He, Guangyan Huang, and Yanchun Zhang

An Innovation Alliance Model Based on Extenics and Multi-agent 465
Xingsen Li, Zhongbiao Xiang, and Haolan Zhang

Social Recommendation Based on Multi-relational Analysis 471
Jian Chen, Guanliang Chen, Haolan Zhang, Jin Huang, and Gansen Zhao

Special Session: Large-Scale Application-Focused Multiagent Systems

Hierarchical Bayesian Nonparametric Approach to Modeling and Learning the Wisdom of Crowds of Urban Traffic Route Planning Agents 478
Jiangbo Yu, Kian Hsiang Low, Ali Oran, and Patrick Jaillet

Challenges and Opportunities for Trust Management in Crowdsourcing 486
Han Yu, Zhiqi Shen, Chunyan Miao, and Bo An

Lagrangian Relaxation for Large-Scale Multi-agent Planning 494
Geoffrey J. Gordon, Pradeep Varakantham, William Yeoh, Hoong Chuin Lau, Ajay S. Aravamudhan, and Shih-Fen Cheng

Generalized Partition Mechanism: Framework for Combining Multiple Strategy-Proof Mechanisms 502
Yuko Sakurai and Makoto Yokoo

Self-Organizing Agents for Efficient Sustainable Resource Utilization 510
Benyun Shi and Jiming Liu

IAT 2012 Author Index

2012 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology

(WI-IAT 2012)

Macau, China
4 - 7 December 2012

Volume 3
Pages 1-405

IEEE Catalog Number: CFP12WEB-PRT
ISBN: 978-1-4673-6057-9

2012 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology

WI-IAT 2012

Table of Contents

Volume - 3

WI-IAT 2012 Workshops Preface xii

International Workshop on Optimization-based Data Mining and Web Intelligence (ODMWI 2012) xvii

International Workshop on Behavior Informatics (BI 2012) xviii

2012 International Workshop on Intelligent Web Interaction (IWI-2012) xix

International Workshop on Tourism Facilities (TF'12) xx

International Workshop on Natural Language Processing and Ontology Engineering (NLPOE 2012) xxi

The International Workshop on Nature-Inspired Computing and Metaheuristics for Web Intelligence (NiCaM-WI 2012) xxii

International Workshop on Web Personalization, Recommender Systems and Social Media (WPRSM 2012) xxiii

Fifth International Workshop on Web Information Retrieval Support Systems (WIRSS) xxiv

The Second International Symposium on Web Intelligent Systems & Services (WISS 2012) xxv

2012 Combined Workshop on Cross-Cultural and Cross-Linguistic Semantic Web and Software Agent Teamwork for the Semantic Web xxvi

International Workshop on Social Networks and Data Processing (SNDP 2012) xxvii

International Symposium on the Intelligent Campus (iCampus) – IC'12 xxix

Third International Workshop on Green Computing and Sustainable Society (GCSS).....xxxi

2012 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology—Workshops

Session WI-IAT-WS1: International Workshop on Optimization-Based Data Mining and Web Intelligence (ODMWI 2012)

A Simple and Fast Multi-instance Classification via Support Vector Machine 1
Zhiquan Qi, Yingjie Tian, and Yong Shi

Efficient Implementation of Nonparallel Hyperplanes Classifier 5
Xu Chan Ju and Ying Jie Tian

Learning Using Privileged Information with L-1 Support Vector Machine 10
Lingfeng Niu, Yong Shi, and Jianmin Wu

Real-Time Vehicular Traffic Violation Detection in Traffic Monitoring Stream 15
Guoyu Ou, Yang Gao, and Ying Liu

Modeling Return Rate Correlation between Shanghai and Shenzhen Stock Markets Using Copula Function 20
Yibing Chen, Lingling Zhang, and Yong Shi

Empirical Research on the Total Factor Productivity of Chinese Software Companies 25
Ye Wang, Caiming Zhang, Guanghua Chen, and Yong Shi

Database Keyword Search: A Perspective from Optimization 30
Rajvardhan Patil, Zhengxin Chen, and Yong Shi

Session WI-IAT-WS2: International Workshop on Behavior Informatics (BI 2012)

An Impact Analysis of Emergency Event on Stock Market Based on Web Search Data: A Case from 723 Yongwen Railway Accident 34
Yang Xin, Lv Benfu, Sun Yi, and Peng Geng

A Coarse to Fine Facial Key Landmark Points Locating Algorithm Based on Active Shape Model 39
Bo Fan, Xiaokang Yang, Xi Zhou, Weiyao Lin, and Changjian Chen

Recognizing Human Group Behaviors with Multi-group Causalities 44
Cong Zhang, Xiaokang Yang, Weiyao Lin, and Jun Zhu

Knowledge-Based Behavior Specification 49
V. Gorodetsky, V. Samoylov, D. Trotsky, and S. Serebryakov

Mining Web Browsing Log by Using Relaxed Biclique Enumeration Algorithm in MapReduce 54
Chung-Tsai Su, Wen-Kwang Tsao, Wei-Rong Chu, and Ming-Ray Liao

Improvement of a Methodology for Website Keyobject Identification through the Application of Eye-Tracking Technologies 59
Juan D. Velásquez Silva

Proactive Control Method Based on System Margin in Evolutional Agent System 64
Akiko Takahashi, Mitsuru Abe, Wenpeng Wei, and Tetsuo Kinoshita

Session WI-IAT-WS3: 2012 International Workshop on Intelligent Web Interaction (IWI-2012)

Investigation of Potency-magnitude Relations of eWOM Messages with a Focus on the Distinction between Attitude Direction and Strength 69
Kazunori Fujimoto

Clustering Based on Independent Component 74
Takahiro Nishigaki and Takashi Onoda

Clustering with Extended Constraints by Co-Training 79
Masayuki Okabe and Seiji Yamada

User and Item Modeling Methods Using Customer Reviews towards Recommender System Based on Personal Values 83
Shunichi Hattori and Yasufumi Takama

Semantic-Feature-Based Object Recognition by Using Internet Data Mining 87
Jing Xu, Shogo Okada, and Katsumi Nitta

Session WI-IAT-WS4: International Workshop on Tourism Facilities (TF'12)

RecTour: A Recommender System for Tourists 92
Ranieri Baraglia, Claudio Frattari, Cristina Ioana Muntean, Franco Maria Nardini, and Fabrizio Silvestri

Applicability of Demographic Recommender System to Tourist Attractions: A Case Study on Trip Advisor 97
Yuanyuan Wang, Stephen Chi-Fai Chan, and Grace Ngai

Designing an Information Gathering Application for a Personalized Travel Recommender System 102
Conrad Ciobanica, Filip Tudic, and Radu Razvan Slavescu

Travel with Words: An Innovative Vision on Travelling 107
Fabio Massimo Zanzotto and Alexandra Gabriela Tudorache

A Personalized Trust-Aware Model for Travelogue Discovering 112
Shilong Zhang, Richong Zhang, Xudong Liu, and Hailong Sun

Session WI-IAT-WS5: International Workshop on Natural Language Processing and Ontology Engineering (NLPOE 2012)

Algorithmic Semantics of Ambiguous Modifiers with the Type Theory of Acyclic Recursion 117
Roussanka and Loukanova

Relevance Feedback Fusion via Query Expansion 122
Chen Chen, Hou Chunyan, and Yuan Xiaojie

Chinese Semantic Role Labeling Based on Genetic Algorithm 127
Mao Ning, Shao Yanqiu, and Liang Chunxia

Using Multiple Resources in Graph-Based Semi-supervised Sentiment Classification 132
Ge Xu and Houfeng Wang

An Approach to Identify Ememes on the Blogosphere 137
Gloria Bordogna and Gabriella Pasi

Session WI-IAT-WS6: The International Workshop on Nature-Inspired Computing and Metaheuristics for Web Intelligence (NiCaM-WI 2012)

Bees Swarm Optimization for Web Association Rule Mining 142
Y. Djenouri, H. Drias, Z. Habbas, and H. Mosteghanemi

Nature-Inspired Clustering Algorithms for Web Intelligence Data 147
Tang Rui, Simon Fong, Xin-She Yang, and Suash Deb

Bees Swarm Optimization for Real Time Ontology Based Information Retrieval 154
Hadia Mosteghanemi and Habiba Drias

Session WI-IAT-WS7: International Workshop on Web Personalization, Recommender Systems and Social Media (WPRSM 2012)

Personalized Tweet Ranking Based on AHP: A Case Study of Micro-blogging Message Ranking in T.Sina 159
Yuhong Guo, Li Kang, and Tie Shi

Integration of Opinion into Customer Analysis Model 164
Mohd Ridzwan Yaakub, Yuefeng Li, Abdulmohsen Algarni, and Bo Peng

Using Multidimensional Clustering Based Collaborative Filtering Approach Improving Recommendation Diversity 169
Xiaohui Li and Tomohiro Murata

Semi-metric Networks for Recommender Systems 175
Tiago Simas and Luis M. Rocha

Research on Mining Common Concern via Infinite Topic Modelling 180
Yishu Miao, Chunping Li, Qiang Ding, and Li Li

Predicting Mental Health Status in the Context of Web Browsing 185
Dong Nie, Yue Ning, and Tingshao Zhu

Matching Relevance Features with Ontological Concepts 190
Yan Shen, Yuefeng Li, Yue Xu, and Xiaohui Tao

Session WI-IAT-WS8: Fifth International Workshop on Web Information Retrieval Support Systems (WIRSS)

Ranking Documents with Query-Topic Sensitivity 195
Shota Hatakenaka, Satoshi Shimada, and Takao Miura

On Learning Researchers' Dynamic Information Needs: An Entropy-Based Query Expansion Approach 200
I-Chin Wu, Chun-Yu Lin, Guan-Wei Chen, and Yu-Kai Lin

Computing Semantic Relatedness Based on Search Result Analysis 205
Jiangjiao Duan and Jianping Zeng

Ontology Based Scope Visualisation 210
Julien Tscherrig, Francesco Carrino, Maria Sokhn, Elena Mugellini, and Omar Abou Khaled

Session WI-IAT-WS9: The Second International Symposium on Web Intelligent Systems and Services (WISS 2012)

Transportation Logistics Services from Cloud 215
Vladimir Gorodetsky, Oleg Karsaev, Victor Konyushiy, and Vladimir Samoylov

CA-ABAC: Class Algebra Attribute-Based Access Control 220
Daniel J. Buehrer and Chun-Yao Wang

Recognizing Valid Artifacts in Business Processes 226
Qi He

Session WI-IAT-WS10: 2012 Combined Workshop on Cross-Cultural and Cross-Linguistic Semantic Web and Software Agent Teamwork for the Semantic Web

Multilingual Food and Health Ontology Learning Using Semi-Structured and Structured Web Data Sources 231
Saeed Albukhitan and Tarek Helmy

Ontology-Based Automatic Receipt Accounting System 236
Zhinian Shen and Yuri Tijerino

A Cross-language Approach for Semantic Recipe Annotation and Nutrition Annotation Augmentation Based on Extraction Ontologies and Culture-Relevant Policy Reasoning 240
Zheng Meng Long and Yuri A. Tijerino

Toward a Cross-Cultural and Cross-Language Multi-agent Recommendation Model for Food and Nutrition 245
Ahmed Al-Nazer and Tarek Helmy

Policy-Based Governance within Luna: Why We Developed Yet Another Agent Framework 250
Larry Bunch, Jeffrey M. Bradshaw, Tom Eskridge, Paul J. Feltovich, James Lott, Andrzej Uszok, and Marco Carvalho

Session WI-IAT-WS11: International Workshop on Social Networks and Data Processing (SNDP 2012)

Marketing Positioning System Designing Based on Extenics 257
Limei Zhou, Yongqing Zhang, and Haolan Zhang

Semantic Image Retrieval Using Collaborative Indexing and Filtering 261
C.H.C. Leung and Yuanxi Li

What is the Value of Your Network? 265
Alexandre Barão and Alberto Rodrigues da Silva

Isolated Word Speech Rcogniton Based on HRSF and Improved DTW Algorithm 270
Xiao-Hui Hu, Gansen Zhao, Lv-Jun Zhan, Yun Xue, and Weixing Zhou

Discovery of Interesting Users in Twitter by Overlapping Propagation Paths of Retweets 274
Yusuke Ota, Kazutaka Maruyama, and Minoru Terada

Not Every Friend on a Social Network Can be Trusted: An Online Trust Indexing Algorithm 280
Rui Tang, Luke Lu, Yan Zhuang, and Simon Fong

Session WI-IAT-WS12: International Symposium on the Intelligent Campus (iCampus) — IC'12

CAViAR: Context Aware Visual Indoor Augmented Reality for a University Campus 286
Buti Al Delail, Luis Weruaga, and M. Jamal Zemerly

Intelligent Campus (iCampus) Impact Study 291
Nora Aion, Linda Helmandollar, Minjuan Wang, and Jason W.P. Ng

Design and Implementation of a Cloud-Learning Service Platform 296
Jun Xiao, Minjuan Wang, Lamei Wang, Xiaoxiao Zhu, and Jason Ng

Surfing Notes: An Integrated Web Annotation and Archiving Tool 301
Sisi He and Edward Chan

Semi-Supervised Latent Dirichlet Allocation and Its Application for Document Classification 306
Di Wang, Marcus Thint, and Ahmad Al-Rubaie

ABKD: Multimodal Mobile Language Game for Collaborative Learning of Chinese Hanzi and Japanese Kanji Characters 311
Michael B. Syson, Ma. Regina E. Estuar, and Karl T. See

Cognitive-Educational Constraints for Socially-Relevant MALL Technologies 316
Tania Cerni and Remo Job

MOOCs: Is There an App for That? Expanding Mobilegogy through an Analysis of MOOCS and iTunes University 321
Patricia A. Machun, Catherine Trau, Nadia Zaid, Minjuan Wang, and Jason Ng

Learning Writing by Reading in Web-Based Classroom 326
Zhong Sun, Minhu Wu, and Yuhui Ma

A MAS Approach to Course Offering Determination 331
Fuhua Lin, Alex Newcomb, and A.J. Armstrong

Indoor Localization and Guidance Using Portable Smartphones 337
Omran Al Hammadi, Ahmed Al Hebsi, M. Jamal Zemerly, and Jason W.P. Ng

Investigation and Prototype Design of Collaborative Virtual Learning Enivronments 342
Mohammad Saleem Darwaish and Fang Wang

Personalising the iCampus: An End-User Programming Approach 347
Jeannette Chin, Vic Callaghan, and Adrian Winckles

Enabling the Next Generation Learning Environment 352
Benjamin Hirsch, Ahmad Al-Rubaie, Di Wang, Christian Guttmann, and Jason W.P. Ng

NoobLab: An Intelligent Learning Environment for Teaching Programming 357
Paul Neve, Gordon Hunter, David Livingston, and James Orwell

Remote Mixed Reality Collaborative Laboratory Activities: Learning Activities within the InterReality Portal 362
Anasol Peña-Ríos, Vic Callaghan, Michael Gardner, and Mohammed J. Alhaddad

Session WI-IAT-WS13: Third International Workshop on Green Computing and Sustainable Society (GCSS)

Prototype of New Business Process Visualization Tool 367
Akihiko Nagai, Tatsunosuke Tsuboi, and Takayuki Ito

Skin Segmentation Based on Human Face Illumination Feature 373
Pan Ng and Chi-Man Pun

Self-Adjustable Trust-Based Energy Efficient Routing for Smart Grid Systems 378
Ming Xiang, Quan Bai, and William Liu

Evaluation of the Reputation Network Using Realistic Distance between Facebook Data 383
Takanobu Otsuka, Takuya Yoshimura, and Takayuki Ito

Evaluation of Parking Reservation System with Auction Including Electricity Trading 389
So Hashimoto, Ryo Kanamori, Takayuki Ito, and Shantanu Chakraborty

A Preliminary Experimental Analysis on Combinatorial Auction-Based Electric Power Allocation for Manufacturing Industries 394
Naoki Fukuta and Takayuki Ito

A Preliminary Study on Anticipatory Stigmergy for Traffic Management 399
Jun Takahashi, Ryo Kanamori, and Takayuki Ito

Workshops Author Index