

IEEE IRI 2008 Detailed Program

July 13, 2008, Sunday

- 8:00 am - 5:00 pm** **Conference Registration** (*Conf. Registration Desk*)
- 7:30 - 8:30 am** **Informal Meet & Greet – Breakfast** (*Pavilion 4*)
- 8:30 - 8:40 am** **Welcome, Conference Opening Remarks** (*Pavilion 6*)
- 8:40 - 9:40 am** **KEYNOTE(1)** (*Pavilion 6*)
Lotfi Zadeh, BISC, UC Berkeley, USA
 Computation with Imprecise Probabilities
- 9:40 - 10:40 am** **KEYNOTE(2)** (*Pavilion 6*)
Hojjat Adeli, The Ohio State University, USA
 Inventing the Future of Neurology: Integrated Wavelet-Chaos-Neural Network Models for Knowledge Discovery and Automated EEG-Based Diagnosis of Neurological Disorders
- 10:40 - 11:00 am** **Break**
- 11:00 am - 12:15 pm** **Session A**
- Session A1: Databases I** (*Pavilion 6*)
Session Chair: Reda Alhajj
- 149 Reengineering XML into Object-Oriented Database
 Taher Naser¹, Reda Alhajj² and Mick J. Ridley¹
¹ *Bradford University, UK*
² *University of Calgary, Canada*
- 49 Modeling Role-Based Access Control Using a Relational Database Tool
 Chia-Chu Chiang and Coskun Bayrak
University of Arkansas at Little Rock, USA
- 74 Using a Search Engine to Query a Relational Database
 Brian Harrington¹, Robert Brazile² and Kathleen Swigger²
¹ *Yahoo! Inc., USA*
² *University of North Texas, USA*
- Session A2: Optimization and Search** (*Conf. room 11, 12*)
Session Chair: Eric Gregoire
- 22 Route Selection Algorithm based on Integer Operation Ant Colony Optimization
 Masaya Yoshikawa¹ and Hidekazu Terai²
¹ *Meijo University, Japan*
² *Ritsumeikan University, Japan*
- 42 Optimization of Controllers in the Thermal System Using Initial Pheromone Distribution in Ant Colony Optimization
 Qian Zhang, Ze Dong, Pu Han, Zhongli Wu and Fang Gao
North China Electric Power University, China
- 119 Portfolio Selection using an Artificial Immune System
 Hamid Reza Golmakani¹ and Elnaz Jalilipour Alishah²
¹ *Tafresh University, Iran*
² *Amirkabir University of Technology, Iran*
- Session A3: Web Services** (*Conf. room 13, 14*)
Session Chair: Seung-yun Kim
- 72 Web Service Composition Based on Integrated Substitution and Adaptation
 Lu Chen and Randy Chow
University of Florida, USA
- 65 Reachability Analysis of Web Service Interfaces
 Xutao Du, Chunxiao Xing and Lizhu Zhou
Tsinghua University, China
- 127 Modeling and Synthesis of Service Composition Using Tree Automata
 Ken Q. Pu and Ying Zhu
University of Ontario Inst. of Technology, Canada
- 12:15 - 1:30 pm** **Lunch**
- 1:30 - 3:00 pm** **Session B**
- Session B1: Databases II** (*Pavilion 6*)
Session Chair: Gorgon Shaw Novak

- 68 AMSQM: Adaptive Multiple Super-Page Queue Management
Moshe Itshak¹ and Yair Wiseman²
¹ Bar-Ilan University, Israel
² The Open University, Israel
- 146 Data Warehouse Architecture and Design
Mohammad Rifaie¹, Keivan Kianmehr², Reda Alhaji² and Mick J. Ridley¹
¹ Bradford University, UK
² University of Calgary, Canada
- 87 Mining Knowledge Flow for Modeling the Information Needs of Task-based Groups
Chin-Hui Lai and Duen-Ren Liu
National Chiao Tung University, Taiwan

Session B2: Biological Applications (Conf. room 11, 12)

Session Chair: Taghi M. Khoshgoftaar

- 165 An Empirical Study of Supervised Learning for Biological Sequence Profiling and Microarray Expression Data Analysis
Abu H. M Kamal¹, Xingquan Zhu¹, Abhijit S. Pandya¹, Sam Hsu¹ and Yong Shi²
¹ Florida Atlantic University, USA
² Chinese Academy of Sciences, China
- 166 An Unsupervised Protein Sequences Clustering Algorithm Using Functional Domain Information
Wei-Bang Chen, Chengcui Zhang and Hua Zhong
University of Alabama at Birmingham, USA
- 113 Outcome Prediction in Traumatic Pelvic Injuries Using Maximum Similarity and Quality Measures
Simina Vasilache¹, Rebecca Smith¹, Soo-Yeon Ji¹, Kayvan Najarian¹ and Toan Huynh²
¹ Virginia Commonwealth University, USA
² Carolinas Healthcare, USA

Session B3: Intelligent Agents (Conf. room 13, 14)

Session Chair: Eric Gregoire

- 59 A New Agent Characterization Model and Grouping Method for Multi-agent System
Hyun Ko, Seungwok Han, Ungmo Kim and Hee Yong Yun
Sungkyunkwan University, Korea
- 162 An Intelligent Agent for the Game of Age of Mythology: the Titans
Jin Park, Du Zhang and Meiliu Lu
California State University, Sacramento, USA
- 118 An Ontology for Multi-Agent Domain and Application Engineering
Adriana Leite¹, Rosario Girardi² and Uiratan Cavalcante²
¹ CEFET-MA – Centro Federal de Educação Tecnológica do Maranhão, Brazil
² UFMA – Federal University of Maranhão, Brazil

3:00 - 3:30 pm **Break**

3:30 - 5:00 pm **Session C**

Session C1: Software Reuse (Pavilion 6)

Session Chair: Gorgon Shaw Novak

- 51 Research on the COM-Based Reusability of Evaluating Models
Xujian Zhao, Peiquan Jin and Lihua Yue
Univ. of Science & Technology of China, China
- 52 Coupling Data Understanding with Software Reuse
Gordon S. Novak Jr.
University of Texas at Austin, USA
- 150 Eliminating the Threat of Kernel Stack Overflows
Yair Wiseman¹, Joel Isaacson² and Eliad Lubovsky³
¹ The Open University, Israel
² Ascender Technologies, Israel
³ Bar-Ilan University, Israel

Session C2: Biomedical Applications (Conf. room 11, 12)

Session Chair: Min-Yuh Day

- 108 Result Identification for Biomedical Abstracts Using Conditional Random Fields
Ryan T.K. Lin¹, Hong-Jei Dai^{1,3}, Yue-Yang Bow¹, Min-Yuh Day¹, Richard Tzong-Han Tsai² and Wen-Lian Hsu^{1,3}
¹ Academia Sinica, Taiwan
² Yuan Ze Univ., Taiwan
³ National Tsing-Hua Univ., Taiwan
- 67 Biomedical Data Correlation and Reuse in Analyzing the Efficiency of Rehabilitation Treatment
Dorin Carstoiu, Alexandra Cernian and Adriana Olteanu

Politehnica University of Bucharest, Splaiul Independentei

- 64 Exercise Energy Expenditure Estimation Based on Acceleration Data Using the Linear Mixed Model
Eija Haapalainen¹, Perttu Laurinen¹, Pekka Siirtola¹, Juha Rönöning¹, Hannu Kinnunen² and Heidi Jurvelin²
¹ *University of Oulu, Finland*
² *Polar Electro Oy, Finland*

Session C3: Risk Management and Social Networks (Conf. room 13, 14)

Session Chair: Li Tan

- 89 Risk Management Education Support System in Company
Satoshi Takahashi¹, Muhammad Dzulqarnain¹, Takayuki Fujimoto² and Tokuro Matsuo¹
¹ *Yamagata University, Japan*
² *Sonoda Women's University, Japan*
- 69 Social Network Mashup: Ontology-based Social Network Integration for Statistic Learning
Chunying Zhou, Huajun Chen and Tong Yu
Zhejiang University, China
- 91 Effective Browsing of Personal Tag Space in Social Tagging Systems
Zhang Yun and Feng Boqin
Xi'an Jiaotong University, China

5:00 - 6:00 pm Panel Session (Board Room)

Panel: The Role of Information Search and Retrieval in Economic Stimulation

Panel Co-chairs: **Stuart Rubin**, SPAWAR Systems Center, USA
Shu-Ching Chen, Florida International University, USA

Panelists: **Lotfi Zadeh**, BISC, UC Berkeley, USA
Hojjat Adeli, The Ohio State University, USA
Mohammad Rifaie, Royal Bank of Canada, Canada
Gordon K. Lee, San Diego State University, USA
Kang Zhang, University of Texas at Dallas, USA
Reda Alhaji, University of Calgary, Canada
Gary D. Boetticher, University of Huston - Clear Lake, USA
Du Zhang, California State University, USA

6:00 - 8:00 pm Reception (Pavilion 4)

July 14, 2008, Monday

7:30 – 8:30 am Breakfast (Pavilion 4)

8:30 – 10:00 am Session D

Session D1: Web Intelligence (Pavilion 6)

Session Chair: Shih-Hung Wu

- 5 Knowledge Extraction from Web-based Application Source Code: An Approach to Database Reverse Engineering for Ontology Development
Shuxin Zhao, Elizabeth Chang and Tharam Dillon
Curtin University of Technology, Australia
- 98 Crawling Programs for Wrapper-based Applications
Claudio Bertoli, Valter Crescenzi and Paolo Merialdo
Universit' a degli Studi Roma Tre, Italy
- 121 A Generic Notification System for Internet Information
Nader Mohamed, Jameela Al-Jaroodi and Imad Jawhar
United Arab Emirates University, UAE

Session D2: Question Answer System (Conf. room 11, 12)

Session Chair: Du Zhang

- 136 An Alignment-based Surface Pattern for a Question Answering System
Cheng-Lung Sung^{1,2}, Cheng-Wei Lee², Hsu-Chun Yen¹ and Wen-Lian Hsu²
¹ *National Taiwan University, Taiwan*
² *Academia Sinica, Taiwan*
- 143 Development of an Evaluation Model for Question Answering Systems
Chorng-Shyong Ong¹, Min-Yuh Day^{1,2} and Wen-Lian Hsu²
¹ *National Taiwan University, Taiwan*
² *Academia Sinica, Taiwan*
- 109 Biological Question Answering with Syntactic and Semantic Feature Matching and an Improved Mean Reciprocal Ranking Measurement
Ryan T.K. Lin¹, Justin Liang-Te Chiu^{1,3}, Hong-Jei Dai^{1,4}, Min-Yuh Day¹, Richard Tzong-Han Tsai² and Wen-Lian Hsu¹
¹ *Academia Sinica, Taiwan*
² *Yuan Ze Univ., Taiwan*

³ National Taiwan Univ., Taiwan

⁴ National Tsing-Hua Univ., Taiwan

Session D3: Data Handling (Conf. room 13, 14)

Session Chair: Chengcui Zhang

- 123 Identifying Learners Robust to Low Quality Data (Conf. room 11, 12)
Andres Folleco, Taghi M. Khoshgoftaar, Jason Van Hulse and Lofton Bullard
Florida Atlantic University, USA
- 60 Lightweight Linked Data
Erik Wilde and Yiming Liu
UC Berkeley, USA
- 76 Hybrid Sampling for Imbalanced Data
Chris Seiffert, Taghi M. Khoshgoftaar and Jason Van Hulse
Florida Atlantic University, USA

10:00 – 10:30 am Break

10:30 am – 12:00 pm Session E

Session E1: Natural Language Processing (Pavilion 6)

Session Chair: Shih-Hung Wu

- 105 Curate a Transliteration Corpus from Transliteration/Translation Pairs
Shih-Hung Wu and Yu-Te Li
Chaoyang University of Technology, Taiwan
- 77 A Word-based Predictive Text Entry Method for Khmer Language
Phavy Ouk, Ye Kyaw Thu, Mitsuji Matsumoto and Yoshiyori Urano
Waseda University, Japan
- 44 Extraction of Objects Contours for Body Language Study
Roumen Kountchev¹, Stuart Rubin², Mariofanna Milanova³, Vladimir Todorov⁴ and Roumiana Kountcheva⁴
¹ *Technical University of Sofia, Bulgaria*
² *Space and Naval Warfare Systems Center San Diego (SSCSD), USA*
³ *University of Arkansas at Little Rock, USA*
⁴ *T&K Engineering, Sofia, Bulgaria*

Session E2: Design Patterns and Web (Conf. room 11, 12)

Session Chair: Suresh Vadhva

- 139 Compound Record Clustering Algorithm for Design Pattern Detection by Decision Tree Learning
Jing Dong¹, Yongtao Sun² and Yajing Zhao¹
¹ *University of Texas at Dallas, USA*
² *American Airlines, USA*
- 112 Web Content Mining Using Web Design Patterns
Milos Kudelka¹, Vaclav Snasel¹, Ondrej Lehecka¹ and Eyas El-Qawasmeh²
¹ *VSB - Technical University of Ostrava, Czech Republic*
² *Jordan University of Science and Technology, Jordan*
- 144 Fuzzy Querying of Nested XML
Allan Chan, Nancy Situ, Kim Wong, Keivan Kianmehr and Reda Alhajj
University of Calgary, Canada

Session E3: Data Mining I (Conf. room 13, 14)

Session Chair: Taghi M. Khoshgoftaar

- 133 An Entropy-based Method for Assessing the Number of Spatial Outliers
Xutong Liu, Chang-Tien Lu and Feng Chen
Virginia Polytechnic Institute and State University, USA
- 46 Automatic Product Feature Extraction from Online Product Reviews Using Maximum Entropy with Lexical and Syntactic Features
Gangarn Somprasertsri^{1,2} and Pattarachai Lalitrojwong¹
¹ *King Mongkut's Institute of Technology Ladkrabang Bangkok, Thailand*
² *Maharakham University, Thailand*
- 134 A Conflict-Based Confidence Measure for Associative Classification
Peerapon Vateekul and Mei-Ling Shyu
University of Miami, USA

12:00 – 1:30 pm Lunch

1:30 – 3:00 pm Session F

Session F1: Document Engineering (Pavilion 6)

Session Chair: Gary D. Boetticher

- 130 Authoritative Documents Identification Based On Nonnegative Matrix Factorization

Nacim Fateh Chikhi, Bernard Rothenburger and Nathalie Aussenac-Gilles
Université Paul Sabatier, France

- 62 A Method for Automatically Generating Proper Responses to User Utterances in Open-ended Conversation by Retrieving Documents on the Web
Masahiro Shibata¹, Tomomi Nishiguchi² and Yoichi Tomiura¹
¹ *Kyushu University, Japan*
² *Toshiba Corporation Digital Media Network Company, Japan*
- 95 A Layered Approach to Semantic Similarity Analysis of XML Schemas
Jaewook Kim^{1,2}, Yun Peng¹, Serm Kulvatunyou², Nenad Ivezic² and Albert Jones²
¹ *University of Maryland, Baltimore County, USA*
² *National Institute of Standards and Technology, USA*

Session F2: Software Design (Conf. room 11, 12)

Session Chair: Li Tan

- 141 Towards an Integrated Modeling and Simulation Framework for Freight Transportation in Metropolitan Areas
Qunzhi Zhou¹, Amol Bakshi¹, Viktor Prasanna² and Ramakrishna Soma²
¹ *University of Southern California, USA*
² *University of Southern California, USA*
- 168 Analysis Methodology for Project Design Utilizing UML
Citlalih Gutiérrez Estrada, Sergio Díaz Zagal, Martín de Jesús Nieto Pérez, Itzel Abundez Barrera, Rocío Elizabeth Pulido Alba, Mauro Sánchez Sánchez and René Arnulfo García Hernández
Instituto Tecnológico de Toluca, Mexico
- 140 A General Purpose Software Evaluation System
Behrouz H. Far¹, Vani Mudigonda¹, Abdel-Halim Hafez Elamy²
¹ *University of Calgary, Canada*
² *University of Alberta, Canada*

Session F3: Data Mining II (Conf. room 13, 14)

Session Chair: Min-Yuh Day

- 153 VCI Predictors: Voting on Classifications from Imputed Learning Sets
Xiaoyuan Su, Taghi M. Khoshgoftarr and Xingquan Zhu
Florida Atlantic University, USA
- 54 Robust Self-splitting Competitive Learning for Data Clustering
Zhang Yun, Feng Boqin and Liu Lianmeng
Xi'an Jiaotong University, China
- 85 Tightness: A Novel Heuristic and a Clustering Mechanism to Improve the Interpretation of Association Rules
Rajesh Natarajan¹ and B. Shekar²
¹ *Hexaware Technologies Limited, India*
² *Indian Institute of Management Bangalore, India*

3:00 – 3:30 pm Break

3:30 – 5:00 pm Session G

Session G1: Machine Learning (Pavilion 6)

Session Chair: Gary D. Boetticher

- 129 Optimizing Lineage Information in Genetic Algorithms for Producing Superior Models
Gary D. Boetticher and Jason Rudisill
University of Houston – Clear Lake, USA
- 71 An Algorithm for Activation Timed Influence Nets
P. Papantoni-Kazakos¹, Abbas K. Zaidi² and M. Faraz Rafi²
¹ *University of Colorado Denver, USA*
² *George Mason University, USA*
- 138 Incorporating Fuzziness into Timer-Triggers for Temporal Event Handling
Ying Jin and Tejaswitha Bhavsar
California State University, Sacramento, USA

Session G2: Knowledge Representation and Reuse (Conf. room 11, 12)

Session Chair: Du Zhang

- 93 Context Modeling for Knowledge Flow
Jianmei Guo and Yinglin Wang
Shanghai Jiao Tong University, China
- 58 Using Default Logic to Enhance Default Logic: Preliminary Report
Eric Grégoire
Université Lille-Nord Europe, Artois, France
- 156 Electronic Learning Support System based on Analogy Reuse
Tokuro Matsuo and Takayuki Fujimoto
¹ *Yamagata University, Japan*

² *Toyo University, Japan*

Session G3: Ontology (Conf. room 13, 14)

Session Chair: Chengcui Zhang

- 154 A Multi-Stage Strategy for Ontology Mapping Resolution
Yinglin Wang¹, Xijuan Liu² and Junquan Chen¹
¹ *Shanghai Jiao Tong Univ., China*
² *Shanghai Dianji University, China*
- 131 Modular Ontology Techniques and their Applications in the Biomedical Domain
Jyotishman Pathak, Thomas M. Johnson and Christopher G. Chute
Mayo Clinic College of Medicine, USA
- 142 An Ontology-Empowered Model for Annotating Protein-Protein Interaction Data: a Case Study for Budding Yeast
Arash Shaban-Nejad and Volker Haarslev
Concordia University, Canada

6:00 – 9:00 pm Banquet (Pavilion 4)

July 15, 2008, Tuesday

7:30 - 8:30 am Breakfast (Pavilion 4)

8:30 - 10:00 am Session H

Session H1: Workflow Management (Pavilion 6)

Session Chair: Min-Yuh Day

- 86 Workflow Instance Detection: Toward A Knowledge Capture Methodology for Smart Oilfields
Fan Sun¹, Viktor Prasanna², Amol Bakshi² and Laurent Pianeolo³
¹ *Univ. of Southern California, USA*
² *Univ. of Southern California, USA*
³ *Chevron Corporation, USA*
- 92 Injecting Formulized Delegation Constraints into Secure Workflow Systems
Li Zhao¹, Qing Li² and Guoqing Wu¹
¹ *Wuhan University, China*
² *City University of Hong Kong, Hong Kong, China*
- 161 Rule Randomization for Propositional Logic-based Workflow Verification
Qianhui Liang¹ and Stuart H. Rubin²
¹ *Singapore Management University, Singapore*
² *SPAWAR Systems Center (SSC), San Diego, USA*

Session H2: Component-based Methods (Conf. room 11, 12)

Session Chair: Reda Alhajj

- 125 FACT: A Fusion Architecture with Contract Templates for Semantic and Syntactic Integration
R. Gamble¹, R. Baird¹, L. Flagg² and M. McClure²
¹ *University of Tulsa, USA*
² *Sentar Incorporated, USA*
- 120 Data Component Based Management of Reservoir Simulation Models
Cong Zhang, Amol Bakshi and Viktor K. Prasanna
University of Southern California, USA
- 94 Empirical-Based Design - Quality-Driven Assembly of Components
Martin Kunz, Steffen Mencke, Dmytro Rud and Reiner Dumke
Otto-von-Guericke University, Germany

Session H3: Data Integration I (Conf. room 13, 14)

Session Chair: Kang Zhang

- 124 Robust Integration of Multiple Information Sources by View Completion
Shankara Subramanya, Baoxin Li and Huan Liu
Arizona State University, USA
- 73 Modeling Heterogeneous Data in Dataspace
Ming Zhong¹, Mengchi Liu² and Qian Chen²
¹ *Wuhan University, China*
² *Carleton University, Canada*
- 53 Optimizing PPDM in Asynchronous Sparse data using Random Projection
R. Raja Kumar, J. Indumathi and G.V.Uma
Anna University, India

10:00 - 10:30 am Break

10:30 am - 12:00 pm Session I

Session I1: Business Computing (Pavilion 6)

Session Chair: Seung-yun Kim

- 151 Model Check Stochastic Supply Chains
Li Tan¹ and Shenghan Xu²
¹ Washington State University, USA
² University of Idaho, USA
- 114 Modeling and Analysis of a Web-based Collaborative Enterprise using Petri nets
Seung-yun Kim
Shepherd University, USA
- 158 Preventing Customer Churn by Using Random Forests Modeling
Weiyun Ying¹, Xiu Li², Yaya Xie² and Ellis Johnson³
¹ Xi'an Jiaotong University, China
² Tsinghua University, China
³ Georgia Institute of Technology, USA

Session I2: Multimedia (Conf. room 11, 12)

Session Chair: Shu-Ching Chen

- 110 Hierarchical Affinity Hybrid Tree: A Multidimensional Index Structure to Organize Videos and Support Content-Based Retrievals
Kasturi Chatterjee and Shu-Ching Chen
Florida International University, USA
- 169 Segmentation of Medical Images by Region Growing
Itzel Abundez Barrera, Citlali Gutierrez Estrada, Sergio Díaz Zagal and Martín de Jesús Nieto Perez
Instituto Tecnológico de Toluca, Mexico
- 15 A Fast Retrieval Algorithm for the Earth Mover's Distance Using EMD Lower Bounds
Masami Shishibori¹, Satoru Tsuge¹, Zhang Le², Minoru Sasaki³, Yoshiki Uemura⁴ and Kenji Kita¹
¹ The University of Tokushima, Japan
² Donghua University, China
³ Ibaraki University, Japan
⁴ Mie University, Japan

Session I3: Networking (Conf. room 13, 14)

Session Chair: Suresh Vadhva

- 37 Managing Application Domains in P²P Systems
Deise de Brum Saccol, Nina Edelweiss, Renata de Matos Galante and Márcio Roberto de Mello
Instituto de Informática, Universidade Federal do Rio Grande do Sul (UFRGS), Brazil
- 70 RFID Composite Event Definition and Detection
Omar González-Padilla¹, Félix Ramos-Corchado¹ and Herwig Unger²
¹ CINVESTAV, Mexico
² FernUniversität in Hagen, Germany
- 20 An Energy Efficient Framework using Non-Volatile Flash Memory for Networked Storage Systems
Mais Nijim, Ahmed Aabukmail and Adel Ali
The University of Southern Mississippi, USA

12:00 - 1:30 pm **Lunch**

1:30 - 3:00 pm **Session J**

Session J1: Data Integration II (Pavilion 6)

Session Chair: Kang Zhang

- 41 Gadget Creation for Personal Information Integration on Web Portals
Chia-Hui Chang¹, Shih-Feng Yang¹, Che-Min Liou¹, Mohammed Kayed²
¹ National Central University, Taiwan
² Beni-Suef University, Egypt
- 10 Integration of Information Needs and Seeking
Sabah S. Al-Fedaghi
Kuwait University, Kuwait
- 24 DEVS Model composition by System Entity Structure
Sae-hoon Cheon¹, Doohwan Kim¹ and Bernard P Zeigler²
¹ RTSync Corp, Phoenix, USA
² University of Arizona, USA