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 Naser 1, Reda Alhajj 2 and Mick J. Ridley 1
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 Harrington 1, Robert Brazile 2 and Kathleen Swigger 2
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 Yoshikawa 1 and Hidekazu Terai 2
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 Golmakani 1 and Elnaz Jalilipour Alishah 2
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
AMSQM: Adaptive Multiple Super-Page Queue Management
Moshe Itshak 1 and Yair Wiseman 2
1 Bar-Ilan University, Israel
2 The Open University, Israel

Data Warehouse Architecture and Design
Mohammad Rifaie 1, Keivan Kianmehr 2, Reda Alhajj 2 and Mick J. Ridley 1
1 Bradford University, UK
2 University of Calgary, Canada

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

An Empirical Study of Supervised Learning for Biological Sequence Profiling and Microarray Expression Data Analysis
Abu H. M. Kamal 1, Xingquan Zhu 1, Abhijit S. Pandya 1, Sam Hsu 1 and Yong Shi 2
1 Florida Atlantic University, USA
2 Chinese Academy of Sciences, China

An Unsupervised Protein Sequences Clustering Algorithm Using Functional Domain Information
Wei-Bang Chen, Chengzui Zhang and Hua Zhong
University of Alabama at Birmingham, USA

Outcome Prediction in Traumatic Pelvic Injuries Using Maximum Similarity and Quality Measures
Simina Vasilache 1, Rebecca Smith 1, Soo-Yeon Ji 1, Kayvan Najarian 1 and Toan Huynh 2
1 Virginia Commonwealth University, USA
2 Carolinas Healthcare, USA

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

A New Agent Characterization Model and Grouping Method for Multi-agent System
Hyun Ko, Seungwok Han, Ungmo Kim and Hee Yong Youn
Sungkyunkwan University, Korea

An Intelligent Agent for the Game of Age of Mythology: the Titans
Jin Park, Du Zhang and Meiliu Lu
California State University, Sacramento, USA

An Ontology for Multi-Agent Domain and Application Engineering
Adriana Leite 1, Rosario Girardi 2 and Uiratan Cavalcante 2
1 CEFET-MA – Centro Federal de Educação Tecnológica do Maranhão, Brazil
2 UFMA – Federal University of Maranhão, Brazil

Session C1: SoftwareReuse (Pavilion 6)
Session Chair: Gorgon Shaw Novak

Research on the COM-Based Reusability of Evaluating Models
Xujian Zhao, Peiquan Jin and Lihua Yue
Univ. of Science & Technology of China, China

Coupling Data Understanding with Software Reuse
Gordon S. Novak Jr.
University of Texas at Austin, USA

Eliminating the Threat of Kernel Stack Overflows
Yair Wiseman 1, Joel Isaacson 2 and Eliad Lubovsky 3
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

Result Identification for Biomedical Abstracts Using Conditional Random Fields
Ryan T.K. Lin 1, Hong-Jei Dai 1, 3, Yue-Yang Bow 1, Min-Yuh Day 1, Richard Tzong-Han Tsai 2 and Wen-Lian Hsu 1, 3
1 Academia Sinica, Taiwan
2 Yuan Ze Univ., Taiwan
3 National Tsing-Hua Univ., Taiwan

Biomedical Data Correlation and Reuse in Analyzing the Efficiency of Rehabilitation Treatment
Dorin Carstoiu, Alexandra Cernian and Adriana Olteanu
3

**Politehnica University of Bucharest, Splaiul Independentei**

64 Exercise Energy Expenditure Estimation Based on Acceleration Data Using the Linear Mixed Model

Eija Haapalainen ¹, Perttu Laurinen ¹, Pekka Siirtola ¹, Juha Rönö ¹, Hannu Kinnunen ¹ and Heidi Jurvelin ²

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 Takahashi ¹, Muhammad Dzuqarnain ¹, Takayuki Fujimoto ² and Tokuro Matsuo ¹

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
X'ian Jiaotong University, China

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**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 Alhajj, University of Calgary, Canada
Gary D. Boetticher, University of Houston - Clear Lake, USA
Du Zhang, California State University, USA

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

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**July 14, 2008, Monday**

**7:30 – 8:30 am Breakfast (Pavilion 4)**

**8:30 – 10:00 am Session D (Pavilion 6)**

**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

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**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 Lee ³, Hsu-Chun Yen ¹ and Wen-Lian Hsu ²

¹ National Taiwan University, Taiwan
² Academia Sinica, Taiwan
³ Yuan Ze Univ., Taiwan

143 Development of an Evaluation Model for Question Answering Systems

Chorng-Shyong Ong ¹, Min-Yuh Day ¹,² and Wen-Lian Hsu ²

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. Lin ¹, Justin Liang-Te Chiu ¹,³, Hong-Jei Dai ¹,⁴, Min-Yuh Day ¹, Richard Tzong-Han Tsai ² and Wen-Lian Hsu ¹

¹ Academia Sinica, Taiwan
² Yuan Ze 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 Kountchev 1, Stuart Rubin 2, Mariofanna Milanova 3, Vladimir Todorov 4 and Roumiana Kountcheva 4
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 Dong 1, Yongtao Sun 2 and Yajing Zhao 1
1 University of Texas at Dallas, USA
2 American Airlines, USA

112 Web Content Mining Using Web Design Patterns
Milos Kukelka 1, Vaclav Snasel 1, Ondrej Lehecka 1 and Eyas El-Qawasmeh 2
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
Gamgarn Somprasertsri 1,2 and Pattarachai Lalitrojwong 1
1 King Mongkut’s Institute of Technology Ladkrabang Bangkok, Thailand
2 Mahasarakham 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
Univ. 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 Shibata 1, Tomomi Nishiguchi 2 and Yoichi Tomiura 1
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 Peng 1, Serm Kulvatunyoo 2, Nenad Ivezic 2 and Albert Jones 2
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 Zhou 1, Amol Bakshi 1, Viktor Prasanna 2 and Ramakrishna Soma 2
1 University of Southern California, USA
2 University of Southern California, USA

168 Analysis Methodology for Project Design Utilizing UML
Citalih Gutiérrez Estrada, Sergio Díaz Zagal, Martín de Jesús Nieto Pérez, Itzel Abundez Barrera, Rocío Elizabeth Pulido Alba, Mauro Sánchez Sánchez and René Amullo García Hernández
Instituto Tecnológico de Toluca, Mexico

140 A General Purpose Software Evaluation System
Behrouz H. Far 1, Vani Mudigonda 1, Abdel-Halim Hafez Elamy 2
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. Khoshgoftaar and Xingquan Zhu
Florida Atlantic University, USA

54 Robust Self-splitting Competitive Learning for Data Clustering
Zhang Yun, Feng Boqin and Liu Lianmeng
Xian Jiaotong University, China

85 Tightness: A New Heuristic and a Clustering Mechanism to Improve the Interpretation of Association Rules
Rajesh Natarajan 1 and B. Shekar 2
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-Kazakos 1, Abbas K. Zaidi 1 and M. Faraz Rafi 2
1 University of Colorado Denver, USA
2 George Mason University, USA

138 Incorporating Fuzziness into Timer-Triggered for Temporal Event Handling
Ying Jin and Tejaswita 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
Session G3: Ontology  (Conf. room 13, 14)
Session Chair: Chengcui Zhang

154  A Multi-Stage Strategy for Ontology Mapping Resolution
Yinglin Wang 1, Xijuan Liu 2 and Junquan Chen 1
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 Sun 1, Viktor Prasanna 2, Amol Bakshi 2 and Laurent Pianelo 3
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 Zhao 1, Qing Li 2 and Guoqing Wu 1
1 Wuhan University, China
2 City University of Hong Kong, Hong Kong, China

161  Rule Randomization for Propositional Logic-based Workflow Verification
Qianhui Liang 1 and Stuart H. Rubin 2
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. Gamble 1, R. Baird 1, L. Flagg 2 and M. McClure 2
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, Omytro 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 Zhong 1, Mengchi Liu 2 and Qian Chen 2
1 Wuhan University, China
2 Carleton University, Canada

53  Optimizing PPDM in Asynchronous Sparse data using Random Projection
R. Rajai 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 Tan 1 and Shenghan Xu 2
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 Ying 1, Xiu Li 2, Yaya Xie 2 and Ellis Johnson 3
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, Citlalih Gutiérrez 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 Shishibori 1, Satoru Tsuge 1, Zhang Le 1, Minoru Sasaki 2, Yoshiki Uemura 3 and Kenji Kita 1
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-Padilla 1, Félix Ramos-Corchado 1 and Herwig Unger 2
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 Chang 1, Shih-Feng Yang 1, Che-Min Liou 1, Mohammed Keyed 2
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
Saehoon Cheon 1, Doohwan Kim 1 and Bernard P Zeigler 2
1 RTSync Corp, Phoenix, USA
2 University of Arizona, USA