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Intelligent Data Engineering and Automated Learning – IDEAL 2007

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Proceedings

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Preface

After a vibrant and successful event in Burgos, Spain, last year, this year's international conference on Intelligent Data Engineering and Automated Learning—IDEAL 2007 (<http://events.cs.bham.ac.uk/ideal07/>)—was held in the second largest city of the UK, Birmingham. The IDEAL conference has become a unique multidisciplinary forum for researchers in both theoretical and practical aspects of learning and information processing, data mining, retrieval and management, bioinformatics and bio-inspired models, agents and hybrid systems, and financial engineering. A special feature of the IDEAL conferences is the cross-disciplinary exchange of ideas in emerging techniques and applications in these areas. Data engineering and associated learning paradigms are playing increasingly important roles in an increasing number of disciplines and fields. The multidisciplinary nature of contemporary research and modern technology is pushing boundaries and one of the principal aims of the IDEAL conference is to promote interactions and collaborations across disciplines.

This volume of *Lecture Notes in Computer Science* contains accepted papers presented at IDEAL 2007 held at the University of Birmingham, UK, during December 16–19, 2007. This year, the conference received over 270 submissions from around the world, which were subsequently peer-reviewed by the Programme Committee comprising leading scholars in the field. Each paper was rigorously reviewed by two reviewers and only papers that had received positive comments from both reviewers were accepted and included in the proceedings in order to maintain the highest quality of the conference. This resulted in about 110 top quality papers for the conference and the proceedings. The acceptance rate was about 40%. The buoyant numbers of submissions in recent years are a clear indication of the importance of the fields related to IDEAL and the popularity of the IDEAL conference and community. This year's conference had five regular themes: Learning and Information Processing, Data Mining and Information Management, Bioinformatics and Neuroinformatics, Agents and Distributed Systems, and Financial Engineering and Modelling. Two special sessions, Agent-based Approach to Service Sciences and Neural-evolutionary Fusion Algorithms and Their Application, were also organized by Akira Namatame and Sancho Salcedo-Sanz, respectively. Many new ideas, novel algorithms and emerging techniques were reported and discussed at the conference.

This 8th IDEAL conference also enjoyed outstanding keynote speeches by distinguished guest speakers: Piero Bonissone, GE Global Research, Kevin Kelly, Carnegie Mellon University, Toby Gibson, European Molecular Biology Laboratory, and Soo-Young Lee of the Korea Advanced Institute of Science and Technology. Their in-depth coverage and work on various challenging topics served as both exceptional examples and inspirations for others.

This year IDEAL also teamed up with two international journals, namely, the *International Journal of Neural Systems* and the *Journal of Mathematical Modelling and Algorithm* for two special issues. The extended papers, together with contributed articles received in response to subsequent open calls, will go through further rounds of peer refereeing in the remits of these two journals.

We would like to thank the International Advisory Committee and the Steering Committee for the guidance and advice. We would particularly like to acknowledge the diligent work of our Programme Committee members, who performed review tasks admirably under tight deadline pressures.

Particular thanks go to CERCIA (The Centre of Excellence for Research in Computational Intelligence and Applications) and the School of Computer Science (especially Ceinwen Cushway) of the University of Birmingham, for their support and organization of IDEAL 2007.

We are also grateful to the publisher, Springer, especially Alfred Hofmann and Anna Kramer at the LNCS Editorial Office, for their continued support and collaboration in this demanding publication project.

Last but not the least we thank all the authors and participants for their contributions that made this conference such a successful and enjoyable event.

October 2007

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Table of Contents

Learning and Information Processing

Support Function Machines	1
<i>Jiuzhen Liang</i>	
Different Bayesian Network Models in the Classification of Remote Sensing Images	10
<i>Cristina Solares and Ana Maria Sanz</i>	
Group Decision Making with Triangular Fuzzy Linguistic Variables	17
<i>Zeshui Xu</i>	
Sparse Kernel Modelling: A Unified Approach	27
<i>S. Chen, X. Hong, and C.J. Harris</i>	
Advanced Forecasting and Classification Technique for Condition Monitoring of Rotating Machinery	37
<i>Ilya Mokhov and Alexey Minin</i>	
Out of Bootstrap Estimation of Generalization Error Curves in Bagging Ensembles	47
<i>Daniel Hernández-Lobato, Gonzalo Martínez-Muñoz, and Alberto Suárez</i>	
An Edit Distance Approach to Shallow Semantic Labeling	57
<i>Samuel W.K. Chan</i>	
A Comparison of One-Class Classifiers for Novelty Detection in Forensic Case Data	67
<i>Frédéric Ratle, Mikhail Kanevski, Anne-Laure Terretaz-Zufferey, Pierre Esseiva, and Olivier Ribaux</i>	
Variational GTM	77
<i>Iván Olier and Alfredo Vellido</i>	
Skill Combination for Reinforcement Learning	87
<i>Zhihui Luo, David Bell, and Barry McCollum</i>	
A New Recurring Multistage Evolutionary Algorithm for Solving Problems Efficiently	97
<i>Md. Monirul Islam, Mohammad Shafiqul Alam, and Kazuyuki Murase</i>	
The Effect of Missing Wind Speed Data on Wind Power Estimation	107
<i>Fatih Onur Hocaoglu and Mehmet Kurban</i>	

Exploration of a Text Collection and Identification of Topics by Clustering	115
<i>Antoine Naud and Shiro Usui</i>	
Asynchronous BCI Control of a Robot Simulator with Supervised Online Training	125
<i>Chun Sing Louis Tsui and John Q. Gan</i>	
Fuzzy Ridge Regression with Non Symmetric Membership Functions and Quadratic Models	135
<i>S. Donoso, N. Marín, and M.A. Vila</i>	
A Subjective and Objective Integrated Method for MAGDM Problems with Multiple Types of Exact Preference Formats	145
<i>Zeshui Xu and Jian Chen</i>	
Energy Saving by Means of Fuzzy Systems	155
<i>José R. Villar, Enrique de la Cal, and Javier Sedano</i>	
A Comparative Study of Local Classifiers Based on Clustering Techniques and One-Layer Neural Networks	168
<i>Yuridia Gago-Pallares, Oscar Fontenla-Romero, and Amparo Alonso-Betanzos</i>	
Filter Methods for Feature Selection – A Comparative Study	178
<i>Noelia Sánchez-Marroño, Amparo Alonso-Betanzos, and María Tombilla-Sanromán</i>	
FPGA-Based Architecture for Computing Testors	188
<i>Alejandro Rojas, René Cumplido, J. Ariel Carrasco-Ochoa, Claudia Feregrino, and J. Francisco Martínez-Trinidad</i>	
Minimal BSDT Abstract Selectional Machines and Their Selectional and Computational Performance	198
<i>Petro Gopych</i>	
Active Learning for Regression Based on Query by Committee	209
<i>Robert Burbidge, Jem J. Rowland, and Ross D. King</i>	
Influence of Wavelet Frequency and Orientation in an SVM-Based Parallel Gabor PCA Face Verification System	219
<i>Ángel Serrano, Isaac Martín de Diego, Cristina Conde, Enrique Cabello, Linlin Shen, and Li Bai</i>	
Wrapping the Naive Bayes Classifier to Relax the Effect of Dependences	229
<i>Jose Carlos Cortizo, Ignacio Giraldez, and Mari Cruz Gaya</i>	

Preference Learning from Interval Pairwise Data. A Distance-Based Approach	240
<i>Esther Dopazo, Mauricio Ruiz-Tagle, and Juan Robles</i>	
Psychometric Functions Within the Framework of Binary Signal Detection Theory: Coding the Face Identity	248
<i>Petro Gopych and Anna Kolot</i>	
Load Forecasting with Support Vector Machines and Semi-parametric Method	258
<i>J.A. Jordaan and A. Ukil</i>	
Reproducing Kernel Hilbert Space Methods to Reduce Pulse Compression Sidelobes	268
<i>J.A. Jordaan, M.A. van Wyk, and B.J. van Wyk</i>	
Support Kernel Machine-Based Active Learning to Find Labels and a Proper Kernel Simultaneously	277
<i>Yasusi Sinozaki and Atsuhiko Takasu</i>	
Making Class Bias Useful: A Strategy of Learning from Imbalanced Data	287
<i>Jie Gu, Yuanbing Zhou, and Xianqiang Zuo</i>	
Detecting Phishing E-mails by Heterogeneous Classification	296
<i>M. Dolores del Castillo, Angel Iglesias, and J. Ignacio Serrano</i>	
Load Balancing in Fault Tolerant Video Server	306
<i>D.N. Sujatha, K. Girish, B. Rashmi, K.R. Venugopal, and L.M. Patnaik</i>	
Position-Aware String Kernels with Weighted Shifts and a General Framework to Apply String Kernels to Other Structured Data	316
<i>Kilho Shin</i>	
A New Regression Based Software Cost Estimation Model Using Power Values	326
<i>Oktay Adalier, Aybars Uğur, Serdar Korukoğlu, and Kadir Ertas</i>	
Visualising and Clustering Video Data	335
<i>Colin Fyfe, Wei Chuang Ooi, and Hanseok Ko</i>	
Neural Network-Based Receiver for Uplink Multiuser Code Division Multiple Access Communication System	345
<i>Zi-Wei Zheng</i>	
Evolving Tree Algorithm Modifications	356
<i>Vincenzo Cannella, Riccardo Rizzo, and Roberto Pirrone</i>	

A Linear Learning Method for Multilayer Perceptrons Using Least-Squares	365
<i>Bertha Guijarro-Berdiñas, Oscar Fontenla-Romero, Beatriz Pérez-Sánchez, and Paula Fraguela</i>	
A Discriminative Model Corresponding to Hierarchical HMMs	375
<i>Takaaki Sugiura, Naoto Goto, and Akira Hayashi</i>	
Finding Unsatisfiable Subformulas with Stochastic Method	385
<i>Jianmin Zhang, Shengyu Shen, and Sikun Li</i>	
A New Efficient Approach in Clustering Ensembles	395
<i>Javad Azimi, Monireh Abdoos, and Morteza Analoui</i>	
An Evolutionary Hyperheuristic to Solve Strip-Packing Problems	406
<i>Pablo Garrido and María-Cristina Riff</i>	
Statistical Analysis of Sample-Size Effects in ICA	416
<i>J. Michael Herrmann and Fabian J. Theis</i>	
HPGP: An Abstraction-Based Framework for Decision-Theoretic Planning	426
<i>Letícia Friske and Carlos Henrique Costa Ribeiro</i>	
Correction of Medical Handwriting OCR Based on Semantic Similarity	437
<i>Bartosz Broda and Maciej Piasecki</i>	
Multiple Classifier Fusion Using k -Nearest Localized Templates	447
<i>Jun-Ki Min and Sung-Bae Cho</i>	
Data Mining and Information Management	
Color Image Segmentation Applied to Medical Domain	457
<i>Liana Stanescu, Dan Dumitru Burdescu, and Cosmin Stoica</i>	
Hierarchical Program Representation for Program Element Matching ...	467
<i>Fernando Berzal, Juan-Carlos Cubero, and Aída Jiménez</i>	
A Combination-of-Tools Method for Learning Interpretable Fuzzy Rule-Based Classifiers from Support Vector Machines	477
<i>Tamas Kenesei, Johannes A. Roubos, and Janos Abonyi</i>	
An Effective Content-Based Image Retrieval System by Hierarchical Segmentation	487
<i>Mingxin Zhang, Zhaogan Lu, and Junyi Shen</i>	
Knowledge Extraction from Unstructured Surface Meshes	497
<i>Lars Graening, Markus Olhofer, and Bernhard Sendhoff</i>	

Clustering with Reinforcement Learning	507
<i>Wesam Barbakh and Colin Fyfe</i>	
Mining Frequent Itemsets in Large Data Warehouses: A Novel Approach Proposed for Sparse Data Sets	517
<i>S.M. Fakhrahmad, M. Zolghadri Jahromi, and M.H. Sadreddini</i>	
A Sparse Bayesian Position Weighted Bio-Kernel Network	527
<i>David C. Trudgian and Zheng Rong Yang</i>	
Square Penalty Support Vector Regression	537
<i>Álvaro Barbero, Jorge López, and José R. Dorronsoro</i>	
Constructing Accurate Fuzzy Rule-Based Classification Systems Using Apriori Principles and Rule-Weighting	547
<i>S.M. Fakhrahmad, A. Zare, and M. Zolghadri Jahromi</i>	
Visualization of Topology Representing Networks	557
<i>Agnes Vathy-Fogarassy, Agnes Werner-Stark, Balazs Gal, and Janos Abonyi</i>	
The Outer Impartation Information Content of Rules and Rule Sets	567
<i>Dan Hu and Yuanfu Feng</i>	
An Engineering Approach to Data Mining Projects	578
<i>Óscar Marbán, Gonzalo Mariscal, Ernestina Menasalvas, and Javier Segovia</i>	
Classifying Polyphonic Melodies by Chord Estimation Based on Hidden Markov Model	589
<i>Yukiteru Yoshihara, Takao Miura, and Isamu Shioya</i>	
Elastic Non-contiguous Sequence Pattern Detection for Data Stream Monitoring	599
<i>Xinqiang Zuo, Yuanbing Zhou, and Chunhui Zhao</i>	
Joint Cutoff Probabilistic Estimation Using Simulation: A Mailing Campaign Application	609
<i>Antonio Bella, Cèsar Ferri, José Hernández-Orallo, and María José Ramírez-Quintana</i>	
Segmentation and Annotation of Audiovisual Recordings Based on Automated Speech Recognition	620
<i>Stephan Repp, Jörg Waitelonis, Harald Sack, and Christoph Meinel</i>	
Mining Disjunctive Sequential Patterns from News Stream	630
<i>Kazuhiro Shimizu, Isamu Shioya, and Takao Miura</i>	

A New Dissimilarity Measure Between Trees by Decomposition of Unit-Cost Edit Distance	643
<i>Hisashi Koga, Hiroaki Saito, Toshinori Watanabe, and Takanori Yokoyama</i>	
Optimizing Web Structures Using Web Mining Techniques	653
<i>Jonathan Jeffrey, Peter Karski, Björn Lohrmann, Keivan Kianmehr, and Reda Alhajj</i>	
A Collaborative Recommender System Based on Asymmetric User Similarity	663
<i>Marta Millan, Maria Trujillo, and Edward Ortiz</i>	
Stop Wasting Time: On Predicting the Success or Failure of Learning for Industrial Applications	673
<i>J.E. Smith and M.A. Tahir</i>	
Parallel Wavelet Transform for Spatio-temporal Outlier Detection in Large Meteorological Data	684
<i>Sajib Barua and Reda Alhajj</i>	
A Tool for Web Usage Mining	695
<i>Jose M. Domenech and Javier Lorenzo</i>	
An Algorithm to Mine General Association Rules from Tabular Data ...	705
<i>Siyamand Ayubi, Maybin Muyebe, and John Keane</i>	
Intrusion Detection at Packet Level by Unsupervised Architectures	718
<i>Álvaro Herrero, Emilio Corchado, Paolo Gastaldo, Davide Leoncini, Francesco Picasso, and Rodolfo Zunino</i>	
Quality of Adaptation of Fusion ViSOM	728
<i>Bruno Baruaque, Emilio Corchado, and Hujun Yin</i>	
Classification Based on the Trace of Variables over Time	739
<i>Frank Höppner and Alexander Topp</i>	
Extracting Meaningful Contexts from Mobile Life Log	750
<i>Youngseol Lee and Sung-Bae Cho</i>	
Topological Tree Clustering of Social Network Search Results	760
<i>Richard T. Freeman</i>	
 Bioinformatics and Neuroinformatics 	
A Framework to Analyze Biclustering Results on Microarray Experiments	770
<i>Rodrigo Santamaría, Roberto Therón, and Luis Quintales</i>	

Methods to Bicluster Validation and Comparison in Microarray Data . . .	780
<i>Rodrigo Santamaría, Luis Quintales, and Roberto Therón</i>	
Capturing Heuristics and Intelligent Methods for Improving Micro-array Data Classification	790
<i>Andrea Bosin, Nicoletta Dessì, and Barbara Pes</i>	
Classification of Microarrays with kNN: Comparison of Dimensionality Reduction Methods	800
<i>Sampath Deegalla and Henrik Boström</i>	
Protein Data Condensation for Effective Quaternary Structure Classification	810
<i>Fabrizio Angiulli, Valeria Fionda, and Simona E. Rombo</i>	
<i>PINCoC</i> : A Co-clustering Based Approach to Analyze Protein-Protein Interaction Networks	821
<i>Clara Pizzuti and Simona E. Rombo</i>	
Discovering α -Patterns from Gene Expression Data	831
<i>Domingo S. Rodríguez Baena, Norberto Diaz Diaz, Jesús S. Aguilar-Ruiz, and Isabel Nepomuceno Chamorro</i>	
Biclusters Evaluation Based on Shifting and Scaling Patterns	840
<i>Juan A. Nepomuceno, Alicia Troncoso Lora, Jesús S. Aguilar-Ruiz, and Jorge García-Gutiérrez</i>	
A Deterministic Model to Infer Gene Networks from Microarray Data	850
<i>Isabel Nepomuceno-Chamorro, Jesús S. Aguilar-Ruiz, Norberto Díaz-Díaz, Domingo S. Rodríguez-Baena, and Jorge García</i>	
Profiling of High-Throughput Mass Spectrometry Data for Ovarian Cancer Detection	860
<i>Shan He and Xiaoli Li</i>	
Adapting Machine Learning Technique for Periodicity Detection in Nucleosomal Locations in Sequences	870
<i>Faraz Rasheed, Mohammed Alshalalfa, and Reda Alhajj</i>	
Analysis of Tiling Microarray Data by Learning Vector Quantization and Relevance Learning	880
<i>Michael Biehl, Rainer Breitling, and Yang Li</i>	
Discriminating Microbial Species Using Protein Sequence Properties and Machine Learning	890
<i>Ali Al-Shahib, David Gilbert, and Rainer Breitling</i>	

Automatic Prognostic Determination and Evolution of Cognitive Decline Using Artificial Neural Networks 898
Patricio García Báez, Carmen Paz Suárez Araujo, Carlos Fernández Viadero, and José Regidor García

Agents and Distributed Systems

SCSTallocator: Sized and Call-Site Tracing-Based Shared Memory Allocator for False Sharing Reduction in Page-Based DSM Systems 908
Jongwoo Lee, Youngho Park, and Yongik Yoon

A Hybrid Social Model for Simulating the Effects of Policies on Residential Power Consumption..... 919
Minjie Xu, Zhaoguang Hu, Xiaoyou Jiao, and Junyong Wu

On Intelligent Interface Agents for Human Based Computation 930
F. Aznar, M. Sempere, M. Pujol, and R. Rizo

Reverse Engineering an Agent-Based Hidden Markov Model for Complex Social Systems 940
Hung-Ching Chen, Mark Goldberg, Malik Magdon-Ismael, and William A. Wallace

Effects of Neighbourhood Structure on Evolution of Cooperation in N-Player Iterated Prisoner’s Dilemma 950
Raymond Chiong, Sandeep Dhakal, and Lubo Jankovic

Interface Agents’ Design for a DRT Transportation System Using PASSI 960
Claudio Cubillos and Sandra Gaete

A Multi-agent System Approach to Power System Topology Verification 970
Kazimierz Wilkosz

Financial Engineering and Modelling

A System for Efficient Portfolio Management 980
Vivian F. López, Luis Alonso, María N. Moreno, Saddys Segrera, and Alfredo Belloso

Partitioning-Clustering Techniques Applied to the Electricity Price Time Series 990
F. Martínez-Álvarez, A. Troncoso, J.C. Riquelme, and J.M. Riquelme

Time-Series Prediction Using Self-Organising Mixture Autoregressive Network 1000
He Ni and Hujun Yin

Adjusting the Generalized Pareto Distribution with Evolution Strategies – An application to a Spanish Motor Liability Insurance Database	1010
<i>María J. Pérez-Fructuoso, Almudena García, Antonio Berlanga, and José M. Molina</i>	
Independent Factor Reinforcement Learning for Portfolio Management	1020
<i>Jian Li, Kun Zhang, and Laiwan Chan</i>	
Discrete Time Portfolio Selection with Lévy Processes	1032
<i>Cesarino Bertini, Sergio Ortobelli Lozza, and Alessandro Staino</i>	
Agent-Based Approach to Service Sciences	
Analyzing the Influence of Overconfident Investors on Financial Markets Through Agent-Based Model	1042
<i>Hiroshi Takahashi and Takao Terano</i>	
Modularity, Product Innovation, and Consumer Satisfaction: An Agent-Based Approach	1053
<i>Shu-Heng Chen and Bin-Tzong Chie</i>	
An Agent-Based Model of Interactions in the Payment Card Market....	1063
<i>Biliana Alexandrova-Kabadjova, Andreas Krause, and Edward Tsang</i>	
The Possibility of an Epidemic Meme Analogy for Web Community Population Analysis	1073
<i>Masao Kubo, Keitaro Naruse, Hiroshi Sato, and Takashi Matubara</i>	
The Econometric Analysis of Agent-Based Models in Finance: An Application	1081
<i>Youwei Li, Bas Donkers, and Bertrand Melenberg</i>	
Short Run Dynamics in an Artificial Futures Market with Human Subjects	1092
<i>Takashi Yamada, Yusuke Koyama, and Takao Terano</i>	
Video-Based Conjoint Analysis and Agent Based Simulation for Estimating Customer’s Behavior	1102
<i>Hiroshi Sato, Masao Kubo, and Akira Namatame</i>	
Effect of the Number of Users and Bias of Users’ Preference on Recommender Systems	1112
<i>Akihiro Yamashita, Hidenori Kawamura, Hiroyuki Iizuka, and Azuma Ohuchi</i>	

Exploring Quantitative Evaluation Criteria for Service and Potentials of New Service in Transportation: Analyzing Transport Networks of Railway, Subway, and Waterbus. 1122
Keiki Takadama, Takahiro Majima, Daisuke Watanabe, and Mitsujiro Katsuhara

Neural-evolutionary Fusion Algorithms and Their Applications

Saw-Tooth Algorithm Guided by the Variance of Best Individual Distributions for Designing Evolutionary Neural Networks. 1131
Pedro Antonio Gutiérrez, César Hervás, and Manuel Lozano

Using a Genetic Algorithm for Editing k-Nearest Neighbor Classifiers . . . 1141
R. Gil-Pita and X. Yao

An Evolution of Geometric Structures Algorithm for the Automatic Classification of HRR Radar Targets 1151
Leopoldo Carro-Calvo, Sancho Salcedo-Sanz, Roberto Gil-Pita, Antonio Portilla-Figueras, and Manuel Rosa-Zurera

Hybrid Cross-Entropy Method/Hopfield Neural Network for Combinatorial Optimization Problems 1160
Emilio G. Ortiz-García and Ángel M. Pérez-Bellido

Author Index 1171