

15th Australian Joint Conference on Artificial Intelligence

Canberra - Australia
December 2nd - 6th, 2002

Associated Events 30th Nov-2nd Dec

Associated Events, Workshops, and Tutorials

Venue: University House, Australian National University, Canberra.

Nov-30
Saturday

[The Annual Conference of the Australasian Association for Logic \(AAL\)](#)
[All day, University House, Meeting Room](#)
[The 6th Australia-Japan Joint Workshop on Intelligent and Evolutionary Systems](#)
[All day, University House, Hall Room](#)

Dec-01
Sunday

[The Annual Conference of the Australasian Association for Logic \(AAL\)](#)
[All day, University House, Meeting Room](#)
[The 6th Australia-Japan Joint Workshop on Intelligent and Evolutionary Systems](#)
[All day, University House, Hall Room](#)

Dec-02
Monday

[The Annual Conference of the Australasian Association for Logic \(AAL\)](#)
[Morning, University House, Hall Room](#)
[The Australasian Workshop on Computational Logic \(AWCL\)](#)
[Afternoon, University House, Hall Room](#)

Conference workshop: [Natural Language Technology](#)
[All day, University House, Meeting Room](#)
Conference tutorial: Prof Mircea GH. Negoita (**Cancelled**)

Conference tutorial: Assoc Prof David Dowe (**Cancelled**)

Dec-03
Tuesday

[The Australasian Workshop on Computational Logic \(AWCL\)](#)
[Morning, University House, Seminar Room A&B](#)

Conference workshop: [Data Mining](#)
[All day, University House, Meeting Room](#)

Conference tutorial: Prof Ming Li
[Afternoon, University House, Terrace Room](#)

The Main Conference

Venue: Rydges (Lakeside) Canberra, London Circuit, CANBERRA ACT 2600,
AUSTRALIA

Tuesday 3 rd December, 2002			
1800 – 2000	Conference Reception: Rydges Hotel		
Wednesday 4 th December, 2002			
0900 – 0910	Conference Opening Session (John Lloyd and Hussein Abbass)		
0910 – 1010	Plenary Talk 1: (Chair Abdul Sattar) Peter van Beek: Constraint Programming		
1010 – 1030	Morning Tea		
1030 – 1230	Natural Language Chair: Kyongho Min	Knowledge Repr. Chair: John Debenham	Evol. Comp. Chair: Ruhul Sarker
1230 – 1440	Poster Session and Lunch		
1440 – 1500	Afternoon Tea		
1500 – 1700	Mach. Learn. App Chair:GrahamWilliams	Agents Chair: Chengqi Zhang	Intelligent Sys. Chair: Raj Gopalan
Thursday 5 th December, 2002			
0900 – 1000	Plenary Talk 2: (Chair Bob McKay) Ming Li: Building Tools to Mine Molecular Sequence Data		
1000 – 1020	Morning Tea		
1020 – 1220	Bayesian Class. Chair: David Dowe	Deduction Chair: John Slaney	ANN Chair: Dimitrios Karas
1340 – 1440	Lunch		
1340 – 1440	Plenary Talk 3: (Chair Hussein Abbass) Chrystopher Nehaniv: Social Learning and Imitation in Animals & Artifacts		
1440 – 1500	Afternoon Tea		
1500 – 1700	RL Chair: John Oommen	Constraints Chair: Peter van Beek	ANN App Chair: David Cornforth
1900 – 2100	Conference Dinner: Rydges Hotel		
Friday 6 th December, 2002			
0900 – 1000	Plenary Talk 4: (Chair John Lloyd) Zoltan Somogyi: Declarative Programming		
1000 – 1020	Morning Tea		
1020 – 1220	Learning Theory Chair: Rohan Baxter	Satisfiability Chair: John Thornton	ANN App Chair: Vic Ciesielski
1220 – 1340	Lunch		
1340 – 1440	Plenary Talk 5: (Chair John Slaney) Bernhard Nebel: The Philosophical Soccer Player		
1440 – 1500	Afternoon Tea		
1500 – 1700	Learning Theory Chair: H. Sato	Fuzzy Reasoning Chair:Mircea Negoita	Miscellaneous Chair: Bob McKay

A. Wednesday 1030-1230: Natural language and information retrieval

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1. Debbie Richards, Kathrin Boettger, Oscar Aguilera
A Controlled Language to Assist Conversion of Use Case Descriptions into Concept Lattices

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2. Kyongho Min, William H. Wilson, Yoo-Jin Moon
Preferred Document Classification for a Highly Inflectional/Derivational Language

94

3. Ingrid Zukerman, Bhavani Raskitti, Ying Ying Wen
Experiments in Query Paraphrasing for Information Retrieval

B. Wednesday 1030-1230: Knowledge representation and commonsense reasoning

23

4. Marina De Vos, Dirk Vermeir
Dynamic Decision Making in Logic Programming and Game Theory

40

5. Akira Fusaoka
On a Linear Representation Theory for Quantitative Belief Change

70

6. Chuchang Liu, Maris Ozols
Trust in Secure Communication Systems - the Concept, Representations, and Reasoning Techniques

82

7. Jane Brennan, Eric Martin
Foundations for a Formalism of Nearness

C. Wednesday 1030-1230: Evolutionary algorithms

27

8. Thomas Loveard, Vic Ciesielski
Genetic Programming for Classification: An Analysis of Convergence Behaviour

71

9. David Cornforth
Evolution in the Orange Box: A New Approach to the Sphere-packing Problem in CMAC-based Neural Networks

80

10. Andrew P. Kosoresow , Matthew P. Johnson
Finding Worst-case Instances of, and Lower Bounds for, Online Algorithms Using Genetic Algorithms

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11. Dianhui Wang, Tharam S. Dillon
Theoretical Foundation for Nonlinear Edge-preserving Regularised Learning Image Restoration

D. Wednesday 1500-1600: Machine learning applications

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12. Masafumi Matsuhara, Kenji Araki, Koji Tochinai
Effectiveness for Machine Translation Method using Inductive Learning on Number Representation

85

13. Graham Williams, Rohan Baxter, Chris Kelman, Chris Rainsford, Hongxing He, Lifang Gu, Deanne Vickers, Simon Hawkins
Estimating Episodes of Care using Linked Medical Claims Data

E. Wednesday 1500-1700: Agents

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14. Wayne Wobcke
Intention and Rationality for PRS-like Agents

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15. Hee Suk Seo, Tae Ho Cho
Modeling and Simulation for Detecting a Distributed Denial of Service Attack

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16. John Debenham
Knowledge-driven Processes can be Managed

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17. Juei-Nan Chen, Yueh-Min Huang, William C. Chu
Adaptive Multi-agent Decision Making using Analytical Hierarchy Process

F. Wednesday 1500-1700: Intelligent systems

55

18. Rob Sherwood, Steve Chien, Rebecca Castano, Gregg Rabideau
Autonomous Planning and Scheduling on the TechSat 21 Mission

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19. Mark Ashmore, Nick Barnes
Omni-drive Robot Motion on Curved Paths: The Fastest Path between Two Points is not a Straight Line

76

20. Raj P. Gopalan, Grant Lee
Indexing of Image Databases using Untrained 4D Holographic Memory Model

30

21. Zaiping Chen, Qiang Gao, Chao Dong, Hongjin Liu, Peng Zhang, Zhenlin Xu
The Flux-oriented Control of an Induction Machine utilizing an On-line Controller Parameter Adaptation Scheme

G. Thursday 1020-1220: Bayesian reasoning and classification

15

22. Mike Dowman
Modelling the Acquisition of Colour Words

54

23. Lucas R. Hope, Kevin B. Korb
Bayesian Information Reward

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24. Kyung-Yong Jung, Jung-Hyun Lee
Prediction of User Preference in Recommendation System using Associative User Clustering and Bayesian Estimated Value

95

25. Sarah George, Ingrid Zukerman
Argument Interpretation using Minimum Message Length

H. Thursday 1020-1220: Deduction

42

26. Seungyeob Choi, Manfred Kerber
Semantic Selection for Resolution in Clause Graphs

61

27. Jeremy Dawson, Rajeev Gore
Machine-checking the Timed Interval Calculus

116

28. Wolfgang Mayer, Markus Stumptner
Modeling Programs with Unstructured Control Flow for Debugging

I. Thursday 1020-1220: Neural networks

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29. Shuxiang Xu, Ming Zhang
An Adaptive Activation Function for Higher Order Neural Networks

45

30. Sun Jian, Shen Rui-Min, Yang Fan
An Adaptive Learning Algorithm aimed at improving RBF Network Generalization Ability

25

31. Zaiping Chen, Jun Li, Youjun Yue, Qiang Gao, Hui Zhao, Zhenlin Xu
A Neural Network Online Training Algorithm based on Compound Gradient Vector

90

32. Cheol-Ki Kim, Eui-Young Cha
Applications of Wavelet Transform and Artificial Neural Networks to Pattern Recognition for Environmental Monitoring

J. Thursday 1500-1630: Reinforcement learning

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33. J.B. Gao, S.R. Gunn, J.S. Kandola
Adapting Kernels by Variational Approach in SVM

52

34. Katja Verbeeck, Ann Nowe, Tom Lenaerts, Johan Parent
Learning to reach the Pareto Optimal Nash Equilibrium as a Team

78

35. Weidong Zhou, Richard Coggins
Computation Models of the Amygdala and the Orbitofrontal Cortex: A Hierarchical Reinforcement Learning System for Robotic Control

K. Thursday 1500-1700: Constraints and scheduling

33

36. Petra Hofstedt

A General Approach for building Constraint Languages

120

37. Aditya Ghose, Peter Harvey

Metric SCSPs: Partial Constraint Satisfaction via Semiring CSPs augmented with Metrics

43

38. Peter Wilke, Matthias Groebner, Norbert Oster

A Hybrid Genetic Algorithm for School Timetabling

93

39. Wensheng Yao, Baiyan Li, Jinyuan You

Genetic Scheduling on Minimal Processing Elements in the Grid

L. Thursday 1500-1700: Neural net applications I

74

40. Dianhui Wang, N.K. Lee, T.S. Dillon, N.J. Hoogenraad

Protein Sequences Classification using Modular RBF Neural Networks

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41. Sun Jie, G.S. Hong, M. Rahman, Y.S. Wong

Feature Extraction and Selection in Tool Condition Monitoring System

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42. D.A. Karras, B.G. Mertzios

A Robust Meaning Extraction Methodology using Supervised Neural Networks

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43. Yakov Frayman, Bernard F. Rolfe, Geoffrey I. Webb

Solving Regression Problems using Competitive Ensemble Models

M. Friday 1020-1220: Learning theory I

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44. Satoshi Matsumoto, Takayoshi Shoudai, Tetsuhiro Miyahara, Tomoyuki Uchida

Learning of Finite Unions of Tree patterns with Internal Structured Variables from Queries

89

45. Raj P. Gopalan, Yudho Giri Sucahyo

TreeITL-Mine: Mining Frequent Itemsets using Pattern Growth, Tid Intersection and Prefix Tree

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46. Dongmo Zhang, Norman Foo

Convergency of Learning Process

97

47. Michael Bain

Structured Features from Concept Lattices for Unsupervised Learning and Classification

N. Friday 1020-1220: Satisfiability reasoning

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48. John Thornton, Wayne Pullan, Justin Terry
Towards Fewer Parameters for SAT Clause Weighting Algorithms
77

49. Olena Kravchuk, Wayne Pullan, John Thornton, Abdul Sattar
An Investigation of Variable Relationships in 3-SAT
101

50. Andrew Slater
Modelling More Realistic SAT Problems
115

51. John Thornton, Stuart Bain, Abdul Sattar, Duc Nghia Pham
A Two Level Local Search for MAX-SAT Problems with Hard and Soft Constraints

O. Friday 1020-1220: Neural net applications II

96

52. D.A. Karras, V. Zorkadis
Strong Pseudorandom Bit Sequence Generators using Neural Network Techniques
and Their Evaluation for Secure Communications
53

53. Mohammed Shakeel Laghari
Surface Feature Recognition of Wear Debris
100

54. D.A. Karras, B.G. Mertzios
Improved Defect Detection using Novel Wavelet Feature Extraction Involving
Principal Component Analysis and Neural Network Techniques

P. Friday 1500-1700: Learning theory II

38

55. Laura Kornienko, David L. Dowe, David W. Albrecht
Message Length Formulation of Support Vector Machines for Binary Classification -
A Preliminary Scheme
60

56. Peter J. Tan, David L. Dowe
MML Inference of Decision Graphs with Multi-way Joins
69

57. Yudi Agusta, David L. Dowe
MML Clustering of Continuous-valued data Using Gaussian and t Distributions
108

58. S-W. Kim, B.J. Oommen
Optimizing Kernel-based Nonlinear Subspace Methods using Prototype Reduction
Schemes

Q. Friday 1500-1600: Fuzzy reasoning

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59. Cong Tran, Ajith Abraham, Lakhmi Jain
Adaptation of a Mamdani Fuzzy Inference System using Neuro-genetic Approach for
Tactical Air Combat Decision Support System

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60. Dragos Arotaritei, Mircea Gh. Negoita
Optimization of Recurrent Algebraic Fuzzy-NN by GA with Variable Length
Genotype

R. Friday 1500-1600: Miscellaneous

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61. Piet van Remortel, Tom Lenaerts, Bernard Manderick
Lineage and Induction in the Development of Evolved Genotypes for Non-uniform
2D CAs.

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62. Peng Han, Ruimin Shen, Fan Yang, Qiang Yang
The Application of Case Based Reasoning on Q&A System

S. Posters

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63. K W Chau, F Albermani, S L Chan
Development of an Intelligent Tutoring System on Design of Liquid Retaining
Structures

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64. K W Chau, C T Cheng
Real-time Prediction of Water Stage with Artificial Neural Network Approach

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65. Manfred Kerber, Martin Pollet
On the Design of Mathematical Concepts

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66. Chuchang Liu, Martin Ozols
Consistency of Trust Theories

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67. Alan McCabe
An Artificially Intelligent Sports Tipper

58

68. Marianne Brown
Selecting Semantics for use with Semantic Pruning of Linear Deductions

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69. Kwokwing Chau
Calibration of Flow and Water Quality Modelling using Genetic Algorithm

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70. Herbert Jelinek, David Cornforth, Patricia Waley, Eduardo Fernandez, Wayne
Robinson
A Comparison of Machine Learning Approaches for the Automated Classification of
Dementia

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71. Guido Governatori, Vineet Padmanabhan, Abdul Sattar
A Defeasible Logic of Policy-based Intention

83

72. Roby J Richer, Dan R Corbett
A Self-organizing Territorial Approach to Multi-robot Search and Surveillance

87

73. K A Mohamed, A Datta, R Kozera
Knowledge-based Techniques for Constraint Satisfaction in Resource Allocation Problems

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74. Hidetomo Nabeshima, Koji Iwanuma, Katsumi Inoue
Effective SAT Planning by Speculative Computation