IJCAI-97 Preliminary Schedule
Technical Program

Tuesday, August 26

SESSION A
9:00 - 10:30 am

Plenary Room

9:00 - 10:00 am
Invited Talk: Let's Plan it Deductively
Wolfgang Bibel, Technical University Darmstadt, Germany

10:00 - 10:30 am
Conference Report: The 13th Internationl Conference on Automated Deduction (CADE '96), John Slaney, Australian National University, Australia

Room 1
Cognitive Modeling 1

J577: Acquisition of Human Feelings for Music Arrangement
Masayuki Numao, Masashi Kobayashi, and Katsuyuki Sakaniwa

J674: Using Data and Theory in Multistrategy (Mis)Concept(ion) Discovery
Raymond Sison, Masayuki Numao, and Masamichi Shimura

J561: An Aggregation Procedure for Building Episodic Memory
Olivier Ferret and Brigitte Grau

Room 2
Expert Systems

J909: An Expert System Using Nonmonotonic Techniques for Benefits Inquiry in the Insurance Industry
Leora Morgenstern and Moninder Singh

J427: Can We Benefit from Metrics in KBS Development?
Stefan Kramer, Hermann Kaindl, and Stefan Schlee

J393: Multi-Perspective Modelling of the Air Campaign Planning process
John Kingston, Anna Griffith, Terri Lydiard

Room 3
Automated Reasoning 1: Belief Revision

J768: Qualitative Relevance and Independence: A Roadmap
Didier Dubois, Luis Fariñas del Cerro, Andreas Herzig,
and Henri Prade

J374: The Complexity of Belief Update
Paolo Liberatore

J441: Anytime Belief Revision
Mary-Anne Williams

Room 4
Diagnosis 1

J017: Locating Faults in Tree-Structured Networks
Christopher Leckie and Michael Dale

J425: Diagnosing Tree Structured Systems
Markus Stumptner and Franz Wotawa

J354: Event-Based Reasoning for Short Circuit Diagnosis in Power Transmission Networks
Gianfranco Lamperti and Paolo Pogliano

Room 5
Learning 1

J328: Unbiased Assessment of Learning Algorithms
Tobias Scheffer and Ralf Herbrich

J645: Is Nonparametric Learning Practical in Very High Dimensional Spaces?
Gregory Z. Grudic and Peter D. Lawrence

J653: Discovering Admissible Models of Complex Systems Based on Scale-Types and Identity Constraints
Takashi Washio and Hiroshi Motoda

10:30 - 11:00 am
Coffee Break

SESSION B
11:00 am - 12:30 pm

Plenary Room

11:00 am - 12:00 pm
Invited Talk: Remote-Brained Robots
Masayuki Inaba, The University of Tokyo, Japan

Room 1
Cognitive Modeling 2

J644: An Achievment Test for Knowledge-Based Systems: QUEM
Caroline Clark Hayes and Michael I. Parzen

J802: A Functional Theory of Design Patterns
Sambasiva R. Bhatta and Ashok K. Goel

J803: Mental Tracking: A Computational Model of Spatial Development

Kazuo Hiraki, Akio Sashima, and Steven Phillips

Room 2
Planning 1: Relations among Techniques

J847: Prioritized Goal Decomposition of Markov Decision Processes: Toward a Synthesis of Classical and Decision Theoretic Planning
Craig Boutilier, Ronen I. Brafman, and Christopher Geib

J884: Model Minimization, Regression, and Propositional STRIPS Planning
Robert Givan and Thomas Dean

J860: Automatic SAT-Compilation of Planning Problems
Michael D. Ernst, Todd D. Millstein, and Daniel S. Weld

Room 3
Automated Reasoning 2: Belief Revision

J132: Towards Generalized Rule-based Updates
Yan Zhang and Norman Y. Foo

J980: Representation Theorems for Multiple Belief Changes
Dongmo Zhang, Shifu Chen, Wujia Zhu, and Zhaoqian Chen

J979: Nonmonotonic Reasoning and Multiple Belief Revision
Dongmo Zhang, Shifu Chen, Wujia Zhu, and Hongbing Li

Room 4
Diagnosis 2

J575: Exploiting domain knowledge for approximate diagnosis
Annette ten Teije and Frank van Harmelen

J725: Semantically Guided Theorem Proving for Diagnosis Applications
Peter Baumgartner, Peter Fröhlich, Ulrich Furbach, and Wolfgang Nejdl

J752: A Static Model-Based Engine for Model-Based Reasoning
Peter Fröhlich and Wolfgang Nejdl

Room 5
Learning 2: Reinforcement Learning

J570: An Adaptive Architecture for Modular Q-Learning
Takayuki Kohri, Kei Matsubayashi, and Mario Tokoro

J583: A convergent Reinforcement Learning algorithm in the continuous case based on a Finite Difference method
Rémi Munos

J937: Ants and Reinforcement Learning: A Case Study in Routing in Dynamic Networks
Devika Subramanian, Peter Druschel, and Johnny Chen

12:30 - 2:00 pm

Lunch Break

SESSION C
2:00 - 3:30 PM

Plenary Room
Distinguished Papers

J508: Applications of the Situation Calculus To Formalizing Control and Strategic Information: The Prolog Cut Operator
Fangzhen Lin

J896: Translingual Information Retrieval: A Comparative Evaluation
Jaime G. Carbonell, Yiming Yang, Robert E. Frederking, Ralf D. Brown, Yibing Geng, Danny Lee

J775: Object Identification in a Bayesian Context
Timothy Huang and Stuart Russell

Room 1
Cognitive Modeling 3

J286: In the Quest of the Missing Link
Guilherme Bittencourt

J533: Implementing BDI-like Systems by Direct Execution
Michael Fisher

J885: Managing decision resources in plan execution
Michael Freed and Roger Remington

Room 2
Scheduling

J454: Combining Local Search and Look-Ahead for Scheduling and Constraint Satisfaction Problems
Andrea Schaerf

J605: Automatic Generation of Heuristics for Scheduling
Robert A. Morris, John L. Bresina, and Stuart M. Rodgers

J774: Development of Iterative Real-time Scheduler to Planner Feedback
Charles B. McVey, Ella M. Atkins, Edmund Durfee, and Kang G. Shin

Room 3
Automated Reasoning 3: Theorem Proving

J079: High Performance ATP Systems by Combining Several AI Methods
Jöng Denzinger, Marc Fuchs, and Matthias Fuchs

J686: Equational Reasoning using AC Constraints
David A. Plaisted and Yunshan Zhu

J737: Strategies in Rigid-Variable Methods
Andrei Voronkov

Room 4
Diagnosis 3

J194: Polynomial Temporal Band Sequences for Analog Diagnosis
Etienne Loiez and Patrick Taillibert

J627: Fundamentals of Model-Based Diagnosis of Dynamic Systems
Peter Struss

J055: Comparative Analysis of Structurally Different Dynamical Systems
H. De Jong and F. Van Raalte

Room 5
Learning 3: Decision Trees

J031: Integrating Models of Discrimination and Characterization for Learning from Examples in Open Domains
Paul Davidsson

J218: Decision Tree Grafting
Geoffrey I. Webb

J712: Noise-Tolerant Windowing
Johannes Fürnkranz

3:30 - 4:00 pm
Coffee Break

SESSION D
4:00 - 5:00 pm

Plenary Room

Invited Talk: Creativity and Artificial Intelligence
Margaret A. Boden, University of Sussex, United Kingdom

Room 1
Game Playing 1: Go

J960: A Model of Strategy for the Game of Go Using Abstraction Mecanisms
Patrick Ricaud

J711: An Evolutionary Algorithm Extended by Ecological Analogy and its Application to the Game of Go
Takuya Kojima, Kazuhiro Ueda, Saburo Nagano

Room 2
Planning 2: Reactive Planning

J853: A Reactive Planner for a Model-based Executive
Brian C. Williams and P. Pandurang Nayak

J550: Modeling Command Entities
Michael D. Howard

Room 3
Automated Reasoning 4: Propositional KBs

J555: Tractable Cover Compilations
Yacine Boufkhad, Éric Gregoire, Pierre Marquis, Bertrand Mazure, and Lakhdar Saïs

J617: A Four-Valued Fuzzy Propositional Logic
Umberto Straccia

Room 4
Qualitative Reasoning 1: Modeling Support

J797: A Web-Based Compositional Modeling System for Sharing of Physical Knowledge
Yumi Iwasaki, Adam Farquhar, Richard Fikes, and James Rice

J448: A Causal Time Ontology for Qualitative Reasoning
Yoshinobu Kitamura, Mitsuru Ikeda, and Riichiro Mizoguchi

Room 5
Learning 4: Classification

J900: Ensembles as a Sequence of Classifiers
Lars Asker and Richard Maclin

J222: Stacked Generalization: when does it work?
Kai Ming Ting and Ian H. Witten

EVENING SESSION: 5:20-6:20 pm
Plenary Room
Computers and Thought Lecture: Why Robbie Can't Learn: The Difficulty of Learning in Autonomous Agents
Leslie P. Kaelbling, Brown University, USA

Wednesday, August 27

SESSION E
9:00 - 10:00 am

Plenary Room

Invited Talk: Inheritence Comes of Age: Applying Nonmonotonic Techniques to Problems in Industry
Leora Morgenstern, IBM T.J. Watson Research Center, USA

Room 1
Game Playing 2

J866: Search Versus Knowledge in Game-Playing Programs Revisited
Andreas Junghanns and Jonathan Schaeffer

J579: Learning Strategies in Games by Anticipation
Christophe Meyer, Jean-Gabriel Ganascia, and Jean-Daniel Zucker

Room 2
Planning 3: Planning under Uncertainty

J522: Vision-Motion Planning of a Mobile Robot considering Vision Uncertainty and Planning Cost
Jun Miura and Yoshiaki Shirai

J724: Handling Duration Uncertainty in Meta-Level Control of Progressive Processing
Abdel-Illah Mouaddib and Shlomo Zilberstein

Room 3
Automated Reasoning 5: Description Logic

J641: Autoepistemic Description Logics
Francesco M. Donini, Daniele Nardi, and Riccardo Rosati

J045: Reifying Concepts in Description Logics
Liviu Badea

Room 4
Qualitative Reasoning 2: Perception and Belief

J687: Qualitative Reasoning about Perception and Belief
Alvaro del Val, Pedrito Maynard-Reid II, Yoav Shoham

J901: Rule-based Contact Monitoring Using Examples Obtained by Task Demonstration
Pavan Sikka and Brenan J. McCarragher

Room 5
Learning 5: Applications

J593: Alignment Algorithms for Learning to Read Aloud
Charles X. Ling and Handong Wang

J566: Socially Embedded Learning of Office-Conversant Mobile Robot **Jijo-2**
Hideki Asoh, Satoru Hayamizu, Isao Hara, Yoichi Motomura, Shotaro Akaho, and Toshihiro Matsui

Room 6
Constraint Satisfaction 1: Constraint Programming

J422: Semiring-based Constraint Logic Programming
Stefano Bistarelli, Ugo Montanari, and Francesca Rossi

J299: Computational Complexity of Multi-way, Dataflow Constraint Problems
Gilles Trombettoni and Bertrand Neveu

10:00 - 10:30 am
Coffee Break

SESSION F
10:30 am - 12:30 pm

Plenary Room

10:30 - 11:30 am
Invited Talk: Vehicles Capable of Dynamic Vision
Ernest D. Dickmanns, University of the German Army at Munich, Germany

11:30 am - 12:30 pm
Invited Panel: The Next Big Thing
Munindar Singh, Daniel G. Bobrow, Michael N. Huhns, Margaret King, Hiroaki Kitano, and Ray Reiter

Room 1
Neural Nets 1: Rule Extraction

J419: On the Efficient Classification of Data Structures by Neural Networks
Paolo Frasconi, Marco Gori, and Alessandro Sperduti

J291: On the Role of Hierarchy for Neural Network Interpretation
Jürgen Rahmel, Christian Blum, Peter Hahn

J336: Law Discovery using Neural Networks
Kazumi Saito and Ryohei Nakano

J682: Active Diagnosis by Self-Organization: An Approach by The Immune Network Metaphor
Yohiteru Ishida

Room 2
Planning 4: Reasoning about Plans

J845: Adaptive goal recognition
Neal Lesh

J288: Reasoning about Plans
Witold Lukaszewicz and Ewa Madalinska-Bugaj

J357: Reasoning about concurrent execution, prioritized interrupts, and exogenous actions in the situation calculus
Guiseppe De Giacomo, Yves Lespérance, and Hector J. Levesque

J869: Learning to Improve both Efficiency and Quality of Planning
Tara A. Estlin and Raymond J. Mooney

Room 3
Automated Reasoning 6: Nonmonotonism

J386: Circumscribing Inconsistency
Philippe Besnard and Torsten H. Schaub

J870: A default interpretation of defeasible network
Xianchang Wang, Jia-Huai You, and Liyan Yuan

J104: A Cumulative-Model Semantics for Dynamic Preferences on Assumptions
Ulrich Junker

J410: Compiling reasoning with and about preferences into default logic
James P. Delgrande and Torsten H. Schaub

Room 4
Qualitative Reasoning 3: Geometric and Spatial Reasoning

J065: On the Complexity of Qualitative Spatial Reasoning: A Maximal Tractable Fragment of the Region Connection Calculus
Jochen Renz and Bernhard Nebel

J057: Automation of Diagrammatic Reasoning
Matega Jamnik, Alan Bundy, and Ian Green

J892: Structural Inferences from Massive Datasets
Kenneth Yip

Room 5
Learning 6: Logic and ILP

J412: Tractable Induction and Classification in First Order Logic Via Stochastic Matching
Michèle Sebag and Céline Rouveirol

J459: RHB+: A Type-Oriented ILP System Learning from Positive Data
Yutaka Sasaki and Mashiko Haruno

J723: Integrating Explanatory and Descriptive Learning in ILP
Yannis Dimopoulos, Saso Dzeroski, and Antonis Kakas

Room 6
Constraint Satisfaction 2: SAT

J084: Heuristics Based on Unit Propagation for Satisfiability Problems
Chu Min Li and Anbulagan

J800: Hidden **Gold** in Random Generation of SAT Satisfiable Instances
Thierry Castell and Michel Cayrol

J798: Discrete Lagrangian-Based Search for Solving MAX-SAT Problems
Benjamin W. Wah and Yi Shang

J013: Learning Short-Term Weights for GSAT
Jeremy Frank

WEDNESDAY AFTERNOON OPEN

Thursday, August 28

SESSION G
9:00 - 10:30 am

Plenary Room

9:00 - 10:00 am
Invited Talk: Generating Multimedia Briefings: Language Generation in a Coordinated Multimedia Environment to Convey Information Concisely
Kathleen R. McKeown, Columbia University, USA

10:00 - 10:30 am
Conference Report: The Second International Conference on Case-Based Reasoning (ICCBR '97), David Leake, Indiana University, USA

Room 1
Neural Nets 2: Language and Structure Processing

J877: Meaning and the Mental Lexicon
Will Lowe

J440: Extracting Propositions from Trained Neural Networks
Hiroshi Tsukimoto

J157: Convergence time characteristics of an associative memory for natural language processing
Nigel Collier

Room 2
Planning 5: Applications and Support

J945: Robust Periodic Planning and Execution for Autonomous Spacecraft
Barney Pell, Erann Gat, Ron Keesing, Nicola Muscettola, Ben Smith

J722: System Assistance in Structured Domain Model Development
Susanne Biundo and Werner Stephan

J903: Par-KAP: a Knowledge Acquisition Tool for Building Practical Planning Systems
Leliane Nunes de Barros, James Hendler, V. Richard Benjamins

Room 3
Automated Reasoning 7: Nonmonotonism for Logic Programming

J267: Learning Extended Logic Programs
Katsumi Inoue and Yoshimitsu Kudoh

J121: Compiling Prioritized Circumscription into Extended Logic Programs
Toshiko Wakaki and Ken Satoh

Room 4
Qualitative Reasoning 4: Causality

J111: Qualitative Analysis of Causal Graphs with Equilibrium Type-Transition
Koichi Kurumatani and Mari Nakamura

J503: Action Localness, Genericity and Invariants in STRIPS
Norman Y. Foo, Abhaya Nayak, Maurice Pagnucco, Pavlos Peppas, and Yan Zhang

J925: Causality, Constraints and the Indirect Effect of Actions
Hector Geffner

Room 5
Learning 7: Dynamic Environments

J485: Combining Knowledge Acquisition and Machine Learning to Control Dynamic Systems
G. M. Shiraz and C. Sammut

J610: Skill reconstruction as induction of LQ controllers with subgoals
Dorian Suc and Ivan Bratko

J765: Learning Topological Maps with Weak Local Odometric Information
Hagit Shatkay and Leslie Pack Kaelbling

Room 6
Constraint Satisfaction 3: Local Consistency

J377: Local consistency for ternary numeric constraints
Boi Faltings and Esther Gelle

J355: Arc consistency for general constraint networks: preliminary results
Christian Bessière and Jean-Charles Régin

J139: Constraint Satisfaction over Connected Row Convex Constraints
Yves Deville, Olivier Barette, and Pascal Van Hentenryck

10:30 - 11:00 am
Coffee Break

SESSION H
11:00 am - 12:30 pm

Plenary Room

11:00 am - 12:00 pm
Invited Talk: Reinforcement Learning: Lessons for AI
Rich Sutton, University of Massachusetts at Amherst, USA

Room 1
Neural Nets 3: Neurobiologically Inspired Computation

J927: Combining Probabilistic Population Codes
Richard S. Zemel and Peter Dayan

J449: Self-Organization and Segmentation with Laterally Connected Spiking Neurons
Yoonsuek Choe and Risto Miikkulainen

J706: A Music Stream Segregation System Based on Adaptive Multi-Agents
Kunio Kashino and Hiroshi Murase

Room 2
Temporal Reasoning 1

J545: Reasoning by Regression: Pre- and Postdiction Procedures for Logics of Action and Change with Nondeterminism
Marcus Bjäreland and Lars Karlsson

J922: Change, Change, Change: three approaches
Tom Costello

Room 3
Automated Reasoning 8: Modal Logic

J200: Prefixed Tableaux Systems for Modal Logics with Enriched Languages
Philippe Balbiani and Stéphane Demri

J747: A Set-Theoretic Approach to Automated Deduction in Graded Modal Logics
A. Montanari and A. Policriti

J421: On evaluating decision procedures for modal logic
Ullrich Hustadt and Renate A. Schmidt

Room 4
Qualitative Reasoning 5

J810: Redesigning the Problem-Solver's Operators to Improve Solution Quality
Eleni Stroulia and Ashok K. Goel

J910: Formal Specification for Hybrid Dynamical Systems
Pieter J. Mosterman and Gautam Biswas

Room 5
Learning 8

J445: Discovering Interesting Holes in Data
Bing Liu, Liang-Ping Ku, and Wynne Hsu

J325: An Analysis on Crossovers for Real Number Chromosomes in an Infinite Population Size
Tatsuya Nomura

J437: Minimum Splits Based Discretization for Continuous Features
Ke Wang and Han Chong Goh

Room 6
Constraint Satisfaction 4

J367: Some Practicable Filtering Techniques for the Constraint Satisfaction Problem
Romuald Debruyne and Christian Bessière

J375: Structuring Techniques for Constraint Satisfaction Problems
Rainer Weigel and Boi V. Faltings

J458: Merging constraint satisfaction subproblems to avoid redundant search
Javier Larrosa

12:30 - 2:00 pm
Lunch Break

SESSION I
2:00 - 3:30 pm

Plenary Room

2:00 - 3:30 pm
Invited Talk: The New Millennium Remote Agent: To Boldly Go Where No AI System Has Gone Before
Nicola Muscettola, Recom Technologies, NASA Ames Research Center; Barney Pell, Caelum Research Corporation, NASA Ames Research Center; P. Pandurang Nayak and Brian C. Williams, Recom Technologies, NASA Ames Research Center, USA

Room 1
Neural Nets 4: Learning Algorithms and Architectures

J082: An effective learning method for max-min neural networks
Loo-Nin Teow and Kia-Fock Loe

J098: Avoiding Overfitting with BP-SOM
Ton Weijters, H. Jaap van den Herik, Antel van den Bosch, and Eric Postma

J748: Evolvable Hardware for Generalized Neural Networks
Murakawa Masahiro, Yoshizawa Shuji, Kajitani Isamu, and Higuchi Tetsuya

Room 2
Temporal Reasoning 2

J362: Reasoning with Incomplete Initial Information and Nondeterminism in Situation Calculus
Lars Karlsson

J837: Defeasible Specifications in Action Theories
Chitta Baral and Jorge Lobo

J149: Reasoning about Action in Polynomial Time
Thomas Drakengren and Marcus Bjäreland

Room 3
Automated Reasoning 9: Analogy

J436: Preduction: A Common Form of Induction and Analogy
Jun Arima

J388: Analogy and Abduction in Automated Deduction
Gilles Défourneaux and Nicolas Peltier

Room 4
Challenge 1

J556: The Predictive Toxicology Evaluation Challenge
A. Srinivasan, R.O. King, S. H. Muggleton, and M. J. E. Sternberg

J917: Challenge: What is the Impact of Bayesian Networks on Learning?
Nir Friedman, Moises Goldszmidt, David Heckerman, and Stuart Russell

J875: Adaptive Web Sites: an AI Challenge
Mike Perkowitz and Oren Etzioni

Room 5
Natural-Language Processing 1: Generation

J878: Dynamically Improving Explanations: A Revision-Based Approach to Explanation Generation
Charles B. Callaway and James C. Lester

J540: Exploiting the Addressee's Inferential Capabilities in Presenting Mathematical Proofs
Detlef Fehrer and Helmut Horacek

J463: Proof Verbalization as an Application of NLG
Xiaorong Huang and Armin Fiedler

Room 6
Challenge 2

J331: The RoboCup Synthetic Agents Challenge 97
Hiroaki Kitano, Manuela Veloso, Peter Stone, Milind Tambe, Silvia Coradeschi, Eiichi Osawa, Itsuki Noda, Hitoshi Matsubara, and Minoru Asada

J734: Understanding Three Simultaneous Speeches
Hiroshi G. Okuno, Tomchiro Nakatani, Takeshi Kawabata

J623: Distributed Vision System: A Perceptual Information Infrastructure for Robot Navigation
Hiroshi Ishiguro

3:30 - 4:00 pm
Coffee Break

SESSION J

4:00 - 5:30 pm

Plenary Room
RoboCup Finals

Room 1
Search 1: Depth-First Search

J509: Interleaved Depth-First search
Pedro Meseguer

J052: Depth-bounded Discrepancy Search
Toby Walsh

Room 2
Temporal Reasoning 3

J168: Qualitative Temporal Reasoning with Points and Durations
Isabel Navarrete and Roque Marin

J659: On Finding a Solution in Temporal Constraint Satisfaction Problems
Alfonso Gerevini and Matteo Cristani

J105: Towards a Complete Classification of Tractability in Allen's Algebra
Thomas Drakengren and Peter Jonsson

Room 3
Distributed AI 1: Interagent Communication

J862: Middle-Agents for the Internet
Keith Decker, Katia Sycara, Mike Williamson

J615: Semantics and Conversations for an Agent Communication Language
Yannis Labrou and Tim Finin

J457: Persuasion among Agents : An Approach to Implement a Group Decision Support System Based on Multi-Agent Negotiation
Takayuki Ito and Toramatsu Shintani

Room 4
Video Session

Robust Real-Time Face Tracking and Gesture Recognition
Jochen Heizmann and Alexander Zelinksy

PAC—Personality and Cognition: an interactive system for modelling agent scenarios
Lin Padgham and Guy Taylor

Room 5
Natural-Language Processing 2: Machine Translation

J072: Corpus-Based Chinese-Korean Abstracting Translation System
Jun-Jie Li and Key-Sun Choi

J920: A Hybrid Approach to Interactive Machine Translation Integrating Rule-based, Corpus-based, and Example-based Method
Kiyoshi Yamabana, Shin-ichiro Kamei, Kazunori Muraki, Shinichi Doi, Shinko Tamura, Kenji Satoh

J669: Improving Performance of Transfer-Driven Machine Translation with Extra-Linguistic Information from Context, Situation and Environment
Hideki Mima, Osamu Furuse, and Hitoshi Iida

Room 6
Case-Based Reasoning 1

J277: How Similar is VERY YOUNG to 43 Years of Age? On the Representation and Comparison of Polymorphic Properties
Werner Dubitzky, Alfons Schuster, John G. Hughes, David A. Bell, and Kenneth Adamson

J240: The Competence of Sub-Optimal Theories of Structure Mapping on Hard Analogies
Tony Veale and Mark Keane

J444: An Average-Case Analysis of the **k**-Nearest Neighbor Classifier for Noisy Domains
Seishi Okamoto and Nobuhiro Yugami

EVENING SESSION: 5:50-6:50 pm
Plenary Room
Research Excellence Lecture: Relationship Between Natural Processing and AI
Aravind K. Joshi, University of Pennsylvania, USA

Friday, August 29

SESSION K
9:00 - 10:30 am

Plenary Room

9:00 - 10:00 am
Invited Talk: Machine Learning Techniques to Make Computers Easier to Use
Hiroshi Motoda, Osaka University, Japan

10:00 - 10:30 am
Conference Report: The 10th and 11th International Conferences on Qualitative Reasoning (QR '96 and QR '97), Peter Struss,Technical University of Munich, Germany

Room 1
Search 2: Bin Packing

J253: From Approximate to Optimal Solutions: Constructing Pruning and Propagation Rules
Ian P. Gent and Toby Walsh

J153: An Approximate 0-1 Edge-Labeling Algorithm for Constrained Bin-Packing Problem

Ho Soo Lee and Mark Trumbo

Room 2
Information Retrieval 1

J450: Adaptive Personal Information Filtering System that Organizes Personal Profiles Automatically
Toshiki Kindo, Hideyuki Yoshida, Tetsuro Morimoto, Taisuke Watanabe

J171: An Index Navigator for Understanding and Expressing User's Coherent Interest
Yukio Ohsawa and Masahiko Yachida

J418: Wrapper Induction for Information Extraction
Nícholas Kushmerick, Daniel S. Weld, Robert Doorenbos

Room 3
Distributed AI 2: Coordination and Cooperation

J309: Cooperation Structures
Mark d'Inverno, Michael Luck, and Michael Wooldridge

J717: Exploration and Adaptation in Multiagent Systems: A Model-based Approach
David Carmel and Shaul Markovitch

J879: The Effects of Runtime Coordination Strategies Within Static Organizations
Edmund H. Durfee and Young-pa So

Room 4
Robotics 1

J893: Multi-Robot Exploration of an Unknown Environment, Efficiently Reducing the Odometry Error
Ioannis M. Rekleitis, Gregory Dudek, and Evangelos E. Milios

J894: Active Mobile Robot Localization
Wolfram Burgard, Dieter Fox, and Sebastian Thrun

J935: Reactive Combination of Belief Over Time Using Direct Perception
Robin R. Murphy, Dale K. Hawkins, Marcel J. Schoppers

Room 5
Natural-Language Processing 3: Dialogue and Discourse

J727: Dynamic, User-Centered Resolution in Interactive Stories
Nikitas M. Sgouros

J707: Tall, Good, High—Compared to What?
Steffen Staab and Udo Hahn

J953: Charts, interaction-free grammars, and the compact representation of ambiguity
Marc Dymetman

Room 6
Case-Based Reasoning 2

J921: Learning to Integrate Multiple Knowledge Sources for Case-Based Reasoning
David B. Leake, Andrew Kinley, and David Wilson

J282: Aggregating Features and Matching Cases on Vague Linguistic Expressions
Alfons Schuster, Werner Dubitzky, Philippe Lopes, David A. Bell, Kenneth Adamson, John G. Hughes, and John A. White

J273: Using Case-Based Reasoning In Interpreting Unsupervised Inductive Learning Results
Tu Bao Ho and Chi Mai Luong

10:30 - 11:00 am
Coffee Break

SESSION L
11:00 am - 12:30 pm

Plenary Room

11:00 am - 12:00 pm
Invited Talk: Numerica: A Modeling Language for Global Optimization
Pascal van Hentenryck, Brown University, USA

Room 1
Probabilistic Reasoning 1: Efficiency

J432: Probabilistic Partial Evaluation: Exploiting rule structure in probabilistic inference
David Poole

J815: Space-efficient inference in dynamic probabilistic networks
John Binder, Kevin Murphy, and Stuart Russell

J855: Mini-Buckets: A General Scheme of Generating Approximations in Automated Reasoning
Rina Dechter

Room 2
Information Retrieval 2

J373: COSPEX: A System for Constructing Private Digital Library
Masanori Sugimoto, Norio Katyama, Atsuhiro Takasu

J586: Using a Bayesian Network Induction Approach for Text Categorization
Wai Lam, Kan Fan Low, Charo Yang Ho

J919: Toward Structured Retrieval in Semi-structured Information Spaces
Scott B. Huffman and Catherine Baudin

Room 3
Distributed AI 3: Multiagent Algorithms

J876: Dynamic Prioritization of Complex Agents in Distributed Constraint Satisfaction Problems
Aaron Armstrong and Edmund Durfee

J677: A dynamic theory of incentives in multi-agent systems
Yoav Shoham and Katsumi Tanaka

J955: On the Gains and Losses of Speculation in Equilibrium Markets
Tuomas Sandholm and Fredrik Ygge

Room 4
Robotics 2

J829: Scaling the Dynamic Approach to Autonomous Path Planning: Planning Horizon Dynamics
Edward W. Large, Heneik I. Christensen, and Ruzena Bajcsy

J874: Learning to Coordinate Controllers—Reinforcement Learning on a Control Basis
Manfred Huber and Roderic A. Grupen

J301: Situated Actions and Cognition
Jacques Penders and Peter J. Braspenning

Room 5
Natural-Language Processing 4: Dialogue and Discourse

J709: On the Interaction of Metonymies and Anaphora
Katja Markert and Udo Hahn

J397: Computing Parallelism in Discourse
Claire Gardent and Michael Kohlhase

J131: Content Ordering in the Generation of Persuasive Discourse
Chris Reed and Derek Long

Room 6
Computer-Aided Education

J664: Use of Abstraction and Complexity Levels in Intelligent Educational Systems Design
Ruddy Lelouche and Jean-Français Morin

J636: Reasoning Symbolically About Partially Matched Cases
Kevin D. Ashley and Vincent Aleven

J630: Task Ontology Makes It Easier To Use Authoring Tools
Mitsuru Ikeda, Kazuhisa Seta, and Riichiro Mizoguchi

12:30 - 2:00 pm
Lunch Break

SESSION M
2:00 - 3:30 pm

Plenary Room

2:00: - 3:00 pm
Invited Talk: Modeling Social Action for AI Agents
Cristiano Castelfranchi, National Research Council and University of Siena, Italy

3:00 - 3:30 pm
Conference Report: The Second International Conference on MultiAgent Systems (ICMAS '96), Mario Tokoro, Keio University, Japan

Room 1
Probabilistic Reasoning 2: Causal Discovery

J018: A Study of Causal Discovery With Weak Links and Small Samples
Honghua Dai, Kevin Korb, Chris Wallace, and Xindong Wu

J726: ILP with Noise and Fixed Example Size: A Bayesian Approach
Eric McCreath and Arun Sharma

J926: Learning probabilities for noisy first-order rules
Daphne Koller and Avi Pfeffer

Room 2
Information Retrieval 3

J672: The Self-Organizing Desk
Daniela Rus and Peter de Santis

J594: A Learning System for Selective Dissemination of Information
Gianni Amati, Fabio Crestani, Flavio Ubaldini

J817: WebWatcher: A Tour Guide for the World Wide Web
Thorsten Joachims, Dayne Freitag, Tom Mitchell

Room 3
Challenge 3

J518: Challenges in bridging plan synthesis paradigms
Subbarao Kambhampati

J828: Ten Challenges in Propositional Reasoning and Search
Bart Selman, Henry Kautz, and David McAllester

J983: Challenge: How IJCAI 1999 can Prove the Value of AI by using AI
James Geller

Room 4
Vision 1

J128: Comparing Random Starts Local Search with Key Feature Matching
J. Ross Beveridge, Christopher R. Graves, and Jim Steinborn

J262: Chain of Circles for Matching and Recognition of Planar Shapes

Jae-Moon Chung and Noboru Ohnishi

J891: Name-It: Naming and Detecting Faces in Video by the Integration of Image and Natural Language Processing
Shin'ichi Satoh, Yuichi Nakamura, and Takeo Kanade

Room 5
Natural-Language Processing 5: Dialogue and Discourse

J563: ARTIMIS: Natural Dialogue meets Rational Agency
M. D. Sadek, P. Bretier, and F. Panaget

J611: An Information-based Approach for Guiding Multi-Modal Human-Computer-Interaction
Matthias Denecke

J451: Interactive Disambiguation of Natural Language Input: a Methodology and Two Implementations for French and English
Hervé Blanchon

3:30 - 4:00 pm
Coffee Break

SESSION N
4:00 - 5:00 pm

Plenary Room

Invited Talk: The Origins of Syntax in Visually Grounded Robotic Agents
Luc Steels, VUB AI Laboratory, Belgium and Sony Computer Science Laboratory, France

Room 1
Probabilistic Reasoning 3

J507: A Symmetric View of Utilities and Probabilities
Yoav Shoham

J142: PRISM: A Language for Symbolic-Statistical Modeling
Taisuko Sato and Yoshitaka Kameya

Room 2
Information Retrieval 4

J688: Recursive Plans for Information Gathering
Olivier M. Duschka and Alon Y. Levy

J918: Efficiently Executing Information-Gathering Plans
Marc Friedman, Daniel S. Weld

Room 3
Distributed AI 4: Multiagent Algorithms

J830: The Use of Meta-level Information in Learning Situation-Specific Coordination
M. V. Nagendra Prasad and Victor R. Lesser

J446: Analysis of Inheritance Mechanisms in Agent-Oriented Programming
Lobel Crnogorac, Anand S. Rao, Kotagiri Ramamohanarao

Room 4
Vision 2: Stereo Vision

J338: Neural network based photometric stereo using illumination planning
Yuji Iwahori, Wataru Kato, Md. Shoaib Bhuiyan, Robert J. Woodham, and Naohiro Ishii

J661: A General expression of the Fundamental Matrix for Both Projective and Affine Cameras
Zhengyou Zhang and Gang Xu

Room 5
Graphics

J229: A Method of Generating Calligraphy of Japanese Character using Deformable Contours
Lisong Wang, Tsuyoshi Nakamura, Minkai Wang, Hirohisa Seki, and Hidenori Itoh

J907: The Representation and Use of a Visual Lexicon for Automated Graphics Generation
Michelle X. Zhou and Steven K. Feiner