

AAAI-08 / IAAI-08

Technical Program Schedule

Monday, July 14

6:00 – 7:00 pm

AAAI-08 Opening Reception

Tuesday, July 15

Regency Ballroom, Hyatt Regency

8:30 - 9:00 am

AAAI-08/IAAI-08 Opening Ceremony

Welcome and Opening Remarks

Outstanding Award Presentations – Papers, SPC Member, PC Member

Dieter Fox and Carla Gomes, AAAI-08 Program Cochairs

IAAI Welcome, Robert S. Engelmores Award, Deployed Application Award Announcements

Mehmet Goker, IAAI-08 Conference Chair, Karen Haigh, IAAI-08 Program Cochair, and David Leake, AI Magazine Editor-in-Chief

IJCAI-JAIR Best Paper Prize

Toby Walsh, Editor-in-Chief of the *Journal of Artificial Intelligence Research (JAIR)*

AAAI Classic Paper and Distinguished Service Awards

Alan Mackworth, AAAI Past President and Awards Committee Chair

Eric Horvitz, AAAI President

9:00 – 10:00 am

Regency Ballroom, Hyatt Regency

AAAI Presidential Address

Eric Horvitz (Microsoft Corporation)

10:20 - 11:20 am

Global Constraints

1032: Efficient Context-Free Grammar Constraints

Serdar Kadioglu, Meinolf Sellmann

135: Bound Consistency for Binary Length-Lex Set Constraints

Pascal Van Hentenryck, Justin Yip, Carmen Gervet, Grégoire Doms

170: The Parameterized Complexity of Global Constraints

C. Bessiere, E. Hebrard, B. Hnich, Z. Kiziltan, C.-G. Quimper, T. Walsh

Nectar/Senior: Agents and Game Theory

Nectar-37: Efficient Algorithms to Solve Bayesian Stackelberg Games for Security Applications
Praveen Paruchuri, Jonathan P. Pearce, Janusz Marecki, Milind Tambe, Fernando Ordonez, Sarit Kraus

Nectar-61: Adaptive Management of Air Traffic Flow: A Multiagent Coordination Approach
Kagan Tumer, Adrian Agogino

Senior: Game Theory Pragmatics: A Challenge for AI
Yoav Shoham

Natural-Language Processing I

720: Text Categorization with Knowledge Transfer from Heterogeneous Data Sources
Rakesh Gupta, Lev Ratinov

820: Importance of Semantic Representation: Dataless Classification
Ming-Wei Chang, Lev Ratinov, Dan Roth, Vivek Srikumar

440: Single Document Keyphrase Extraction Using Neighborhood Knowledge
Xiaojun Wan, Jianguo Xiao

Approximate Probabilistic Inference I

392: A General Method for Reducing the Complexity of Relational Inference and its Application to MCMC
Hoifung Poon, Pedro Domingos, Marc Sumner

962: Focusing Generalizations of Belief Propagation on Targeted Queries
Arthur Choi, Adnan Darwiche

960: Many-Pairs Mutual Information for Adding Structure to Belief Propagation Approximations
Arthur Choi, Adnan Darwiche

Semi-Supervised Learning

236: Semi-supervised Classification Using Local and Global Regularization
Fei Wang, Tao Li, Gang Wang, Changshui Zhang

78: Instance-level Semisupervised Multiple Instance Learning
Yangqing Jia, Changshui Zhang

238: On Discriminative Semi-Supervised Classification
Fei Wang, Changshui Zhang

Integrated Intelligence: Adaptive Systems for Complex Task Management

II-56: Achieving Far Transfer in an Integrated Cognitive Architecture
Dan Shapiro, Tolga Könik, Paul O'Rorke

II-49: POIROT – Integrated Learning of Web Service Procedures
Mark Burstein, Robert Laddaga, David McDonald, Michael Cox, Brett Benyo, Paul Robertson, Talib Hussain, Marshall Brinn, Drew McDermott

II-43: RADAR: A Personal Assistant that Learns to Reduce Email Overload

Michael Freed, Jaime Carbonell, Geoff Gordon, Jordan Hayes, Brad Myers, Daniel Siewiorek, Stephen Smith, Aaron Steinfeld, Anthony Tomasic

Nectar: Human Computer Interaction

Nectar-36: Intelligent Email: Aiding Users with AI

Mark Dredze, Hanna M. Wallach, Danny Puller, Tova Brooks, Josh Carroll, Joshua Magarick, John Blitzer, Fernando Pereira

Nectar-51: Examining Difficulties Software Developers Encounter in the Adoption of Statistical Machine Learning

Kayur Patel, James Fogarty, James A. Landay, Beverly Harrison

Nectar-70: Decision-Theoretic User Interface Generation

Krzysztof Z. Gajos, Daniel S. Weld, Jacob O. Wobbrock

CC24, Hyatt Conference Center

IAAI-08 Invited Talk

Boss, the Urban Challenge, and the Promise of Autonomous Driving

Chris Urmson (Carnegie Mellon University)

11:30 am - 12:30 pm

Search I

648: Minimizing Disk I/O in Two-Bit Breadth-First Search

Richard E. Korf

171: Predicting the Performance of IDA* with Conditional Distributions

Uzi Zahavi, Ariel Felner, Neil Burch, Robert C. Holte

993: R* Search

Maxim Likhachev, Anthony Stentz

Auctions and Market-Based Systems I

559: An Expressive Auction Design for Online Display Advertising

Sébastien Lahaie, David C. Parkes, David M. Pennock

861: A Theory of Expressiveness in Mechanisms

Michael Benisch, Norman Sadeh, Tuomas Sandholm

980: Partially Synchronized DEC-MDPs in Dynamic Mechanism Design

Sven Seuken, Ruggiero Cavallo, David C. Parkes

Nonmonotonic Reasoning

239: Nonmonotonic Modes of Inference

Victor Jauregui

390: From Qualitative to Quantitative Proofs of Security Properties Using First-Order Conditional Logic

Joseph Y. Halpern

683: Non-monotonic Temporal Logics that Facilitate Elaboration Tolerant Revision of Goals

Chitta Baral, Jicheng Zhao

Approximate Probabilistic Inference 2

56: Latent Tree Models and Approximate Inference in Bayesian Networks

Yi Wang, Nevin L. Zhang, Tao Chen

934: Lifted First-Order Belief Propagation

Parag Singla, Pedro Domingos

25: Hybrid Markov Logic Networks

Jue Wang, Pedro Domingos

Dimensionality Reduction

89: Sparse Projections over Graph

Deng Cai, Xiaofei He, Jiawei Han

966: Distance Metric Learning VS. Fisher Discriminant Analysis

Babak Alipanahi, Michael Biggs, Ali Ghodsi

157: AnalogySpace: Reducing the Dimensionality of Common Sense Knowledge

Robert Speer, Catherine Havasi, Henry Lieberman

Integrated Intelligence: Combining Reasoning, Planning, and Execution

II-30: The PELA Architecture: Integrating Planning and Learning to Improve Execution

Sergio Jiménez, Fernando Fernández, Daniel Borrajo

II-32: Pervasive Diagnosis: The Integration of Diagnostic Goals into Production Plans

Lukas Kuhn, Bob Price, Johan de Kleer, Minh Do, Rong Zhou

II-34: Bimodal Spatial Reasoning with Continuous Motion

Samuel Wintermute, John E. Laird

AI and the Web: Social Networking and Collaboration

AIW-3: Linking Social Networks on the Web with FOAF: A Semantic Web Case Study

Jennifer Golbeck, Matthew Rothstein

AIW-75: Generating Useful Network-based Features for Analyzing Social Networks

Jun Karamon, Yutaka Matsuo, Mitsuru Ishizuka

AIW-113: Minimizing the Spread of Contamination by Blocking Links in a Network

Masahiro Kimura, Kazumi Saito, Hiroshi Motoda

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IAAI-08 Session:

Emerging: Enabling the Interoperability of Large-Scale Legacy Systems

Kalyan Moy Gupta, Mike Zang, Adam Gray, David W. Aha, Joe Krieger

Emerging: Finding Ontological Correspondences for a Domain-Independent Natural Language Dialog Agent

Hamid Haidarian Shahri, Donald Perlis

1:50 - 2:50 pm

Regency Ballroom, Hyatt Regency

AAAI-08 Invited Talk:

Making Sense of Complex Networks

Mark Newman (University of Michigan)

CC24, Hyatt Conference Center

IAAI-08 Session:

Emerging: Semantic Web Development for Traditional Chinese Medicine

Zhaohui Wu, Tong Yu, Huajun Chen, Xiaohong Jiang, Chunying Zhou, Yu Zhang, Yuxin Mao, Yi Feng, Meng Cui, Aining Yin

Deployed: A Case Study of AI Application on Language Instruction: CSIEC

Jiyou Jia

3:00 - 4:00 pm

Satisfiability I

572: On the Power of Top-Down Branching Heuristics

Matti Järvisalo, Tommi Junttila

134: Backdoor Trees

Marko Samer, Stefan Szeider

302: Measuring the Hardness of SAT Instances

Carlos Ansótegui, María Luisa Bonet, Jordi Levy, Felip Manyà

Auctions and Market-Based Systems 2

463: Efficient Metadeliberation Auctions

Ruggiero Cavallo, David C. Parkes

797: Expressive Banner Ad Auctions and Model-Based Online Optimization for Clearing

Craig Boutilier, David C. Parkes, Tuomas Sandholm, William E. Walsh

650: Bidding Strategies for Realistic Multi-Unit Sealed-Bid Auctions

Ioannis A. Vetsikas, Nicholas R. Jennings

Senior Papers I

Learning to Connect Language and Perception

Raymond J. Mooney

An Interaction-Based Approach to Computational Epidemiology

Christopher L. Barrett, Stephen Eubank, Madhav V. Marathe

Search in Planning

265: Accuracy of Admissible Heuristic Functions in Selected Planning Domains

Malte Helmert, Robert Mattmüller

255: Fast Planning by Search in Domain Transition Graph
Yixin Chen, Ruoyun Huang, Weixiong Zhang

267: Landmarks Revisited
Silvia Richter, Malte Helmert, Matthias Westphal

Semi and Unsupervised Learning

200: Clustering via Random Walk Hitting Time on Directed Graphs
Mo Chen, Jianzhuang Liu, Xiaou Tang

897: Integrating Multiple Learning Components through Markov Logic
Thomas G. Dietterich, Xinlong Bao

120: Multi-View Local Learning
Dan Zhang, Fei Wang, Changshui Zhang, Tao Li

Integrated Intelligence: Adaptive and Interactive Robotic Systems

II-15: Adaptive Control for Autonomous Underwater Vehicles
Conor McGann, Frederic Py, Kanna Rajan, John Ryan, Richard Henthorn

II-19: Spatial Scaffolding for Sociable Robot Learning
Cynthia Breazeal, Matt Berlin

II-35: Incorporating Mental Simulation for a More Effective Robotic Teammate
William G. Kennedy, Magdalena D. Bugajska, William Adams, Alan C. Schultz, J. Gregory Trafton

AI and the Web: Information Extraction

AIW-47: Extracting Relevant Snippets for Web Navigation
Qing Li, K. Selçuk Candan, Qi Yan

AIW-100: Automatic Extraction of Data Points and Text Blocks from 2-Dimensional Plots in Digital Documents
Saurabh Kataria, William Browner, Prasenjit Mitra, C. Lee Giles

AIW-101: Turning Web Text and Search Queries into Factual Knowledge: Hierarchical Class Attribute Extraction
Marius Pasca

CC24, Hyatt Conference Center

IAAI-08 Session:

Deployed: Tactical Language and Culture Training Systems: Using Artificial Intelligence to Teach Foreign Languages and Cultures
W. Lewis Johnson, Andre Valente

Emerging: Personalisation of Telecommunications Services as Combinatorial Optimisation
David Lesaint, Deepak Mehta, Barry O'Sullivan, Luis Quesada, Nic Wilson

4:20 - 5:20 pm

Applications

473: A Global Constraint for Bin-Packing with Precedences: Application to the Assembly Line Balancing Problem

Pierre Schaus, Yves Deville

224: Online Learning with Expert Advice and Finite-Horizon Constraints

Branislav Kveton, Jia Yuan Yu, Georgios Theodorou, Shie Mannor

365: Protein Structure Prediction on the Face Centered Cubic Lattice by Local Search

Manuel Cebrián, Ivan Dotú, Pascal Van Hentenryck, Peter Clote

Coordination and Collaboration

301: Coalition Structure Generation: Dynamic Programming Meets Anytime Optimization

Talal Rahwan, Nicholas R. Jennings

949: Agent Coordination with Regret Clearing

Sven Koenig, Xiaoming Zheng, Craig Tovey, Richard Borie,

825: Agent Organized Networks Redux

Robin Grinton, Katia Sycara, Paul Scerri

Teaching Forum Panel Presentation

Planning and Scheduling

358: Planning with Problems Requiring Temporal Coordination

Andrew Coles, Maria Fox, Derek Long, Amanda Smith

874: Probabilistic Planning via Determinization in Hindsight

Sungwook Yoon, Alan Fern, Robert Givan, Subbarao Kambhampati

620: Optimal Scheduling of Contract Algorithms with Soft Deadlines

Spyros Angelopoulos, Alejandro López-Ortiz, Angèle M. Hamel

Nectar: Planning

Nectar-32: Explicit-State Abstraction: A New Method for Generating Heuristic Functions

Malte Helmert, Patrik Haslum, Jörg Hoffmann

Nectar-64: On-line Planning and Scheduling: An Application to Controlling Modular Printers

Minh B. Do, Wheeler Ruml, Rong Zhou

Nectar-82: Beyond Classical Planning: Procedural Control Knowledge and Preferences in State-of-the-Art Planners

Jorge A. Baier, Christian Fritz, Meghyn Bienvenu, Sheila A. McIlraith

Integrated Intelligence: Compound Reasoning for Complex Decision Making

II-51: An Integrated Reasoning Approach to Moral Decision-Making

Morteza Dehghani, Emmett Tomai, Ken Forbus, Matthew Klenk

II-52: An Integrated Agent for Playing Real-Time Strategy Games
Josh McCoy, Michael Mateas

Security and Privacy

917: Proactive Intrusion Detection
Benjamin Liebald, Dan Roth, Neelay Shah, Vivek Srikumar

746: Learning to Analyze Binary Computer Code
Nathan Rosenblum, Xiaojin Zhu, Barton Miller, Karen Hunt

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IAAI-08 Session:

Deployed: Using AI for Olympic Equestrian Event Preparation
Andy Hon Wai CHUN

Emerging: Crops Selection for Optimal Soil Planning using Multiobjective Evolutionary Algorithms
Christian Von Lücken, Ricardo Brunelli

Wednesday, July 16

9:00 – 10:00 am

Regency Ballroom, Hyatt Regency

AAAI-08 Invited Talk:

100 Million Years of Evolutionary History of the Human Genome
David Haussler (University of California, Santa Cruz)

CC24, Hyatt Conference Center

IAAI-08 Session:

Emerging: Reinforcement Learning for Vulnerability Assessment in Peer-to-Peer Networks
Scott DeJmal, Alan Fern, Thinh Nguyen

Emerging: In-the-Dark Network Traffic Classification Using Support Vector Machines
William H. Turkett, Jr., Andrew V. Karode, Errin W. Fulp

10:20 - 11:20 am

Search 2

85: Learning from Multiple Heuristics
Mehdi Samadi, Ariel Felner, Jonathan Schaeffer

451: Efficient Memoization for Dynamic Programming with Ad-Hoc Constraints
Joxan Jaffar, Andrew E. Santosa, Razvan Voicu

194: A New Incomplete Method for CSP Inconsistency Checking
Belaïd Benhamou, Mohamed Réda Saïdi

Game Theory

49: Strategyproof Classification under Constant Hypotheses: A Tale of Two Functions
Reshef Meir, Ariel D. Procaccia, Jeffrey S. Rosenschein

278: Manipulating the Quota in Weighted Voting Games
Michael Zuckerman, Piotr Faliszewski, Yoram Bachrach, Edith Elkind

675: First-Order Algorithm with $O(\ln(1/\epsilon))$ Convergence for ϵ -Equilibrium in Two-Person Zero-Sum Games
Andrew Gilpin, Javier Peña, Tuomas Sandholm

Natural-Language Processing 2

695: Using Answer Set Programming and Lambda Calculus to Characterize Natural Language Sentences with Normatives and Exceptions
Chitta Baral, Juraj Dzifcak, Tran Cao Son

143: Using Wiktionary for Computing Semantic Relatedness
Torsten Zesch, Christof Müller, Iryna Gurevych

891: Automatic Semantic Relation Extraction with Multiple Boundary Generation
Brandon Beamer, Alla Rozovskaya, Roxana Girju

Search and Heuristics

781: Hypothesis Pruning and Ranking for Large Plan Recognition Problems
Gita Sukthankar, Katia Sycara

807: PBA*: Using Proactive Search to Make A* Robust to Unplanned Deviations
Paul Breimyer, Peter R. Wurman

585: Error Classification in Action Descriptions: A Heuristic Approach
Thomas Eiter, Michael Fink, Ján Senko

Data Mining and Discriminative Training

975: Clustering on Complex Graphs
Bo Long, Mark (Zhongfei) Zhang, Philip S. Yu, Tianbing Xu

233: Classification by Discriminative Regularization
Bin Zhang, Fei Wang, Ta-Hsin Li, Wen jun Yin, Jin Dong

126: CRF-OPT: An Efficient High-Quality Conditional Random Field Solver
Minmin Chen, Yixin Chen, Michael R. Brent

Physically Grounded AI: Mobile Robotics / Planning

PGAI-36: Efficient Optimization of Information-Theoretic Exploration in SLAM
Thomas Kollar, Nicholas Roy

PGAI-61: An Efficient Motion Planning Algorithm for Stochastic Dynamic Systems with Constraints on Probability of Failure
Masahiro Ono, Brian C. Williams

PGAI-69: Planning for Human-Robot Interaction Using Time-State Aggregated POMDPs
Frank Broz, Illah Nourbakhsh, Reid Simmons

AI and the Web: Enhancing Web Search I

AIW-16: Metalevel Information in Ontology-Based Applications
Thanh Tran, Peter Haase, Boris Motik, Bernardo Cuenca Grau, Ian Horrocks

AIW-138: A User-Oriented Webpage Ranking Algorithm Based on User Attention Time
Songhua Xu, Yi Zhu, Hao Jiang, Francis C.M. Lau

AIW-151: Concept-Based Feature Generation and Selection for Information Retrieval
Ofer Egozi, Evgeniy Gabrilovich, Shaul Markovitch

Regency Ballroom A/B, Hyatt Regency

IAAI-08 Invited Talk: Robert S. Engelmore Memorial Award Lecture

Toward Cognitive Protheses

Kenneth M. Ford (Florida Institute for Human and Machine Cognition [IHMC])

11:30 am - 12:30 pm

Satisfiability 2

422: Exploiting Causal Independence Using Weighted Model Counting
Wei Li, Pascal Poupart, Peter van Beek

344: Studies in Solution Sampling
Vibhav Gogate, Rina Dechter

318: Within-problem Learning for Efficient Lower Bound Computation in Max-SAT Solving
Han Lin, Kaile Su, Chu-Min Li

Multiagent Systems I

363: Determining Possible and Necessary Winners under Common Voting Rules Given Partial Orders
Lirong Xia, Vincent Conitzer

256: Multiagent Graph Coloring: Pareto Efficiency, Fairness and Individual Rationality
Yaad Blum, Jeffrey S. Rosenschein

876: Voting on Multiattribute Domains with Cyclic Preferential Dependencies
Lirong Xia, Vincent Conitzer, Jérôme Lang

Answer Set Programming I

160: A Reductive Semantics for Counting and Choice in Answer Set Programming
Joohyung Lee, Vladimir Lifschitz, Ravi Palla

75: Credulous Resolution for Answer Set Programming
Piero A. Bonatti, Enrico Pontelli, Tran Cao Son

654: Efficient Haplotype Inference with Answer Set Programming
Esra Erdem, Ferhan Türe

Planning and Scheduling under Uncertainty I

184: Generating Plans in Concurrent, Probabilistic, Over-Subscribed Domains
Li Li, Nilufer Onder

786: Towards Faster Planning with Continuous Resources in Stochastic Domains
Janusz Marecki, Milind Tambe

913: Partitioned External-Memory Value Iteration
Peng Dai, Mausam, Daniel S. Weld

Ensemble Learning

976: Constraint Projections for Ensemble Learning
Daoqiang Zhang, Songcan Chen, Zhi-Hua Zhou, Qiang Yang

50: From Comparing Clusterings to Combining Clusterings
Zhiwu Lu, Yuxin Peng, Jianguo Xiao

303: Semi-Supervised Ensemble Ranking
Steven C.H. Hoi, Rong Jin

Physically Grounded AI: Activity Recognition

PGAI-10: The Hidden Permutation Model and Location-Based Activity Recognition
Hung H. Bui, Dinh Phung, Svetha Venkatesh, Hai Phan

PGAI-11: CIGAR: Concurrent and Interleaving Goal and Activity Recognition
Derek Hao Hu, Qiang Yang

PGAI-23: Feature Selection for Activity Recognition in Multi-Robot Domains
Douglas L. Vail, Manuela M. Veloso

AI and the Web: Enhancing Web Search 2

AIW-36: Intelligent Output Interface for Intelligent Medical Search Engine
Gang Luo

AIW-65: Question Utility: A Novel Static Ranking of Question Search
Young-In Song, Chin-Yew Lin, Yunbo Cao, Hae-Chang Rim

AIW-70: Query-URL Bipartite Based Approach to Personalized Query Recommendation
Lin Li, Zhenglu Yang, Ling Liu, Masaru Kitsuregawa

CC24, Hyatt Conference Center

IAAI-08 Session:

Emerging: Learning Sparse Kernels from 3D Surfaces for Heart Wall Motion Abnormality Detection
Glenn Fung, Sriram Krishnan, R. Bharat Rao, Hui Chen

Emerging: On-line Recognition of Surgical Activity for Monitoring in the Operating Room
N. Paday, T. Blum, H. Feussner, M-O. Berger, N. Navab

1:50 - 2:50 pm

Regency Ballroom, Hyatt Regency

AAAI-08 Invited Talk

What Is To Be Done?

Stuart Russell (University of California, Berkeley)

CC24, Hyatt Conference Center

IAAI-08 Session:

Emerging: Local Search for Optimal Global Map Generation Using Mid-Decadal Landsat Images
Robert A. Morris, John Gasch, Lina Khatib, Steven Covington

Emerging: Learning to Improve Earth Observation Flight Planning
Robert A. Morris, Nikunj Oza, Leslie Keely, Elif Kürklü, Anthony Strawa

3:00 - 4:00 pm

AAAI-08 Outstanding Papers

Optimal False-Name-Proof Voting Rules with Costly Voting
Liad Wagman, Vincent Conitzer

How Good is Almost Perfect?
Malte Helmert, Gabriele Röger

Honorable Mention

On the Progression of Situation Calculus Basic Action Theories: Resolving a 10-year-old Conjecture
Stavros Vassos, Hector J. Levesque

Communication and Coordination

558: Mathematical Modeling and Convergence Analysis of Trail Formation
Sameena Shah, Ravi Kothari, Jayadeva, Suresh Chandra

109: Memetic Networks: Analyzing the Effects of Network Properties in Multi-Agent Performance
Ricardo M. Araujo, Luis C. Lamb

92: Semantical Considerations on Dialectical and Practical Commitments
Munindar P. Singh

Reasoning with Beliefs

452: Factored Models for Probabilistic Modal Logic
Afsaneh Shirazi, Eyal Amir

690: An AGM-Based Belief Revision Mechanism for Probabilistic Spatio-Temporal Logics
Austin Parker, Guillaume Infantes, V.S. Subrahmanian, John Grant

213: Parallel Belief Revision
James Delgrande, Yi Jin

Planning and Scheduling under Uncertainty 2

906: Unknown Rewards in Finite-Horizon Domains
Colin McMillen, Manuela Veloso

287: Fusing Procedural and Declarative Planning Goals for Nondeterministic Domains
Dzmitry Shaparau, Marco Pistore, Paolo Traverso

326: Route Planning under Uncertainty: The Canadian Traveller Problem
Evdokia Nikolova, David R. Karger

Reasoning about Actions and Plans

885: On-Line Case-Based Plan Adaptation for Real-Time Strategy Games
Neha Sugandh, Santiago Ontañón, Ashwin Ram

704: HTN-MAKER: Learning HTNs with Minimal Additional Knowledge Engineering Required
Chad Hogg, Héctor Muñoz-Avila, Ugur Kuter

859: Efficient Learning of Action Schemas and Web-Service Descriptions
Thomas J. Walsh, Michael L. Littman

Physically Grounded AI: Model Transfer

PGAI-55: Transferring Localization Models across Space
Sinno Jialin Pan, Dou Shen, Qiang Yang, James T. Kwok

PGAI-67: Transferring Multi-device Localization Models using Latent Multi-task Learning
Vincent Wenchen Zheng, Sinno Jialin Pan, Qiang Yang, Jeffrey Junfeng Pan

PGAI-68: Transferring Localization Models over Time
Vincent Wenchen Zheng, Evan Wei Xiang, Qiang Yang, Dou Shen

AI and the Web: Machine Learning and the Web

AIW-12: A Utility-Theoretic Approach to Privacy and Personalization
Andreas Krause, Eric Horvitz

AIW-140: Semi-Supervised Learning for Blog Classification
Daisuke Ikeda, Hiroya Takamura, Manabu Okumura

AIW-143: An Unsupervised Approach for Product Record Normalization across Different Web Sites
Tak-Lam Wong, Tik-Shun Wong, Wai Lam

CC24, Hyatt Conference Center

IAAI-08 Session:

Emerging: A Hybrid Approach to Convoy Movement Planning in an Urban City
Ramesh Thangarajoo, Lucas Agussurja, Hoong Chuin Lau

Emerging: A Vehicle Routing System to Solve a Periodic Vehicle Routing Problem for a Food Chain in Hong Kong
Jianfeng Zhu, Wenbin Zhu, Chan Hou Che, Andrew Lim

4:20 - 5:20 pm

Constraints Reasoning

34: Virtual Arc Consistency for Weighted CSP
M. Cooper, S. de Givry, M. Sanchez, T. Schiex, M. Zytnicki

257: Reasoning with Cardinal Directions: An Efficient Algorithm
Xiaotong Zhang, Weiming Liu, Sanjiang Li, Mingsheng Ying

Multiagent Systems 2

292: Coordination and Multi-Tasking Using EMT
Zinovi Rabinovich, Nir Pochter, Jeffrey S. Rosenschein

144: Physical Search Problems Applying Economic Search Models
Yonatan Aumann, Noam Hazon, Sarit Kraus, David Sarne

858: The Impact of Vertical Specialization on Hierarchical Multi-Agent Systems
Steven Okamoto, Paul Scerri, Katia Sycara

Common-Sense Reasoning

13: A Semantic Approach for Iterated Revision in Possibilistic Logic
Guilin Qi

731: A First-Order Theory of Stanislavskian Scene Analysis
Leora Morgenstern

375: Horn Complements: Towards Horn-to-Horn Belief Revision
Marina Langlois, Robert H. Sloan, Balázs Szörényi, György Turán

Senior Papers 2

Intelligence in Wikipedia
Daniel S. Weld, Fei Wu, Eytan Adar, Saleema Amershi, James Fogarty, Raphael Hoffmann, Kayur Patel, Michael Skinner

Artificial Intelligence Needs Open-Access Knowledgebase Contents
Erik Sandewall

Transfer Learning and Activity Recognition

138: Transfer Learning via Dimensionality Reduction
Sinno Jialin Pan, James T. Kwok, Qiang Yang

432: Zero-data Learning of New Tasks
Hugo Larochelle, Dumitru Erhan, Yoshua Bengio

902: Learning Hidden Curved Exponential Family Models to Infer Face-to-Face Interaction Networks from Situated Speech Data
Danny Wyatt, Tanzeem Choudhury, Jeff Bilmes

Physically Grounded AI: Reinforcement Learning

PGAI-32: Maximum Entropy Inverse Reinforcement Learning
Brian D. Ziebart, Andrew Maas, J. Andrew Bagnell, Anind K. Dey

PGAI-80: Adaptive Importance Sampling with Automatic Model Selection in Value Function Approximation
Hiroataka Hachiya, Takayuki Akiyama, Masashi Sugiyama, Jan Peters

AI and the Web: Recommendation and Collaboration

AIW-17: Efficient Querying Relaxed Dominant Relationship between Product Items
Based on Rank Aggregation
Zhenglu Yang, Lin Li, Masaru Kitsuregawa

AIW-103: On the Enactability of Business Protocols
Nirmit Desai, Munindar P. Singh

CC24, Hyatt Conference Center

IAAI-08 Session:

Emerging: Application of Artificial Intelligence to Operational Real-Time Clear-Air Turbulence Prediction
Jennifer Abernethy, Robert Sharman, Elizabeth Bradley

Emerging: COACH - Cumulative Online Algorithm for Classification of Handwriting Deficiencies
Ariella Richardson, Sarit Kraus, Patrice L. Weiss, Sara Rosenblum

6:00 – 9:30 pm

AAAI-08 Poster Demo Reception

Thursday, July 17

9:00 – 10:00 am

AAAI-08 Invited Talks

CC12, Hyatt Conference Center
From Images to Scenes: Using Lots of Data to Infer Geometric, Photometric and Semantic Scene
Properties from a Single Image
Alexei A. Efros (Carnegie Mellon University)

Regency Ballroom C, Hyatt Regency
Sense and Sensibility: Sentiment Analysis, Opinion Mining, and the Computational Treatment of Subjective
Language
Lillian Lee (Cornell University)

CC24, Hyatt Conference Center

IAAI-08 Session:

Emerging: Diagnosing Faults in Electrical Power Systems of Spacecraft and Aircraft
Ole J. Mengshoel, Adnan Darwiche, Keith Cascio, Mark Chavira, Scott Poll, Serdar Uckun

Emerging: Real-time Alert Correlation Using Stream Data Mining Techniques
Reza Sadoddin, Ali A. Ghorbani

10:20 - 11:20 am

Nectar: Constraint Satisfaction

Nectar-12: Decompositions of Grammar Constraints
Claude-Guy Quimper, Toby Walsh

Nectar-14: Breaking Value Symmetry
Toby Walsh

Multiagent Systems, Game Theory

579: A Computational Analysis of the Tournament Equilibrium Set
Felix Brandt, Felix Fischer, Paul Harrenstein, Maximilian Mair

197: On the Dimensionality of Voting Games
Edith Elkind, Leslie Ann Goldberg, Paul Goldberg, Michael Wooldridge

703: Approximability of Manipulating Elections
Eric Brelsford, Piotr Faliszewski, Edith Hemaspaandra, Henning Schnoor, Ilka Schnoor

Description Logics

596: Terminological Reasoning in SHIQ with Ordered Binary Decision Diagrams
Sebastian Rudolph, Markus Krötzsch, Pascal Hitzler

88: Prime Implicate Normal Form for ALC Concepts
Meghyn Bienvenu

630: Worst-case Optimal Conjunctive Query Answering for an Expressive Description Logic without Inverses
Magdalena Ortiz, Mantas Simkus, Thomas Eiter

Model-Based Reasoning I

625: Computing Observation Vectors for Max-Fault Min-Cardinality Diagnoses
Alexander Feldman, Gregory Provan, Arjan van Gemund

725: Computing Minimal Diagnoses by Greedy Stochastic Search
Alexander Feldman, Gregory Provan, Arjan van Gemund

528: Optimal Metric Planning with State Sets in Automata Representation
Björn Ulrich Borowsky, Stefan Edelkamp

Kernel Methods and Neural Networks

94: A Case Study on the Critical Role of Geometric Regularity in Machine Learning
Jason Gauci, Kenneth O. Stanley

253: Dimension Amnesic Pyramid Match Kernel
Yi Liu, Xu-Lei Wang, Hongbin Zha

895: Manifold Integration with Markov Random Walks
Heeyoul Choi, Seungjin Choi, Yoonsuck Choe

Physically Grounded AI: Vision / Activity Recognition

PGAI-22: Multimodal People Detection and Tracking in Crowded Scenes
Luciano Spinello, Rudolph Triebel, Roland Siegwart

PGAI-56: Structure Learning on Large Scale Common Sense Statistical Models of Human State
William Pentney, Matthai Philipose, Jeff Bilmes

PGAI-83: Reducing Particle Filtering Complexity for 3D Motion Capture using Dynamic Bayesian Networks
Cédric Rose, Jamal Saboune, François Charpillet

AI and the Web: Ontologies

AIW-28: Supporting Manual Mapping Revision using Logical Reasoning
Christian Meilicke, Heiner Stuckenschmidt, Andrei Tamilin

AIW-32: Decoding Wikipedia Categories for Knowledge Acquisition
Vivi Nastase, Michael Strube

AIW-142: Neural Network based Constraint Satisfaction in Ontology Mapping
Ming Mao, Yefei Peng, Michael Spring

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IAAI-08 Invited Talk

Realizing Claytronics: A Challenge for AI
Seth Copen Goldstein (Carnegie Mellon University)

11:30 am - 12:30 pm

Satisfiability 3

780: Clause Learning Can Effectively P-Simulate General Propositional Resolution
Philipp Hertel, Fahiem Bacchus, Toniann Pitassi, Allen Van Gelder

165: Relaxed Survey Propagation: A Sum-Product Algorithm for Max-SAT
Hai Leong Chieu, Wee Sun Lee

24: Phase Transitions and Complexity of Weighted Satisfiability and Other Intractable Parameterized Problems
Yong Gao

Multiagent Systems: Uncertainty

401: Value-Based Policy Teaching with Active Indirect Elicitation
Haoqi Zhang, David Parkes

686: Generalized Point Based Value Iteration for Interactive POMDPs
Prashant Doshi, Dennis Perez

768: Bayesian Coalitional Games
Samuel Leong, Yoav Shoham, Philip Kilby, Vangelis Markakis, Pinar Keskinocak

Automated Reasoning

538: An Extended Interpreted System Model for Epistemic Logics
Kaile Su, Abdul Sattar

862: New Compilation Languages Based on Structured Decomposability
Knot Pipatsrisawat, Adnan Darwiche

505: Grounding with Bounds
Johan Wittocx, Maarten Mariën, Marc Denecker

Reasoning about Action and Change

163: Learning Generalized Plans Using Abstract Counting
Siddharth Srivastava, Neil Immerman, Shlomo Zilberstein

997: Finding State Similarities for Faster Planning
Christian Fritz

91: Reasoning about Large Taxonomies of Actions
Yilan Gu, Mikhail Soutchanski

Feature Selection

103: Bounding the False Discovery Rate in Local Bayesian Network Learning
Ioannis Tsamardinos, Laura E. Brown

264: Trace Ratio Criterion for Feature Selection
Feiping Nie, Shiming Xiang, Yangqing Jia, Changshui Zhang, Shuicheng Yan

790: Markov Blanket Feature Selection for Support Vector Machines
Jianqiang Shen, Lida Li, Weng-Keen Wong

Physically Grounded AI: Robotics / Perception

PGAI-3: A Fast Data Collection and Augmentation Procedure for Object Recognition
Benjamin Sapp, Ashutosh Saxena, Andrew Y. Ng

PGAI-38: Anticipatory Perceptual Simulation for Human-Robot Joint Practice: Theory and Application Study
Guy Hoffman, Cynthia Breazeal

Nectar: Learning

Nectar-34: Using Signals of Human Interest to Enhance Single-document Summarization
Krysta M. Svore, Lucy Vanderwende, Christopher J.C. Burges

Nectar-67: An Analysis of Transformational Analogy: General Framework and Complexity
Vithal Kuchibatla, Héctor Muñoz-Avila

Nectar-87: Learning and Inference with Constraints
Ming-Wei Chang, Lev Ratinov, Nicholas Rizzolo, Dan Roth

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IAAI-08 Session:

Deployed: The Law of Choice and the Decision Not to Decide
David C. Wilson, Suzanne Leland, Kenneth Godwin, Andrew Baxter, Ashley Levy, Jamie Smart, Nadia Najar, Jayakrishnan Andaparambil

Emerging: Adaptive Treatment of Epilepsy via Batch-mode Reinforcement Learning
Arthur Guez, Robert D. Vincent, Massimo Avoli, Joelle Pineau

1:50 - 2:50 pm

Game Playing

754: Simulation-Based Approach to General Game Playing
Hilmar Finnsson, Yngvi Björnsson

513: On Range of Skill
Thomas Dueholm Hansen, Peter Bro Miltersen, Troels Bjerre Sørensen

Argumentation

243: Pareto Optimality in Abstract Argumentation
Iyad Rahwan, Kate Larson

8: Argument Theory Change Applied to Defeasible Logic Programming
Martin O. Moguillansky, Nicolás D. Rotstein, Marcelo A. Falappa, Alejandro J. García, Guillermo R. Simari

30: Reasoning about the Appropriateness of Proponents for Arguments
Anthony Hunter

Answer Set Programming 2

155: Hyperequivalence of Logic Programs with Respect to Supported Models
Mirosław Truszczynski, Stefan Woltran

215: Loop Formulas for Logic Programs with Arbitrary Constraint Atoms
Jia-Huai You, Guohua Liu

623: A Meta-Programming Technique for Debugging Answer-Set Programs
Martin Gebser, Jörg Pührer, Torsten Schaub, Hans Tompits

Graphical Models

169: Dormant Independence
Ilya Shpitser, Judea Pearl

241: A General Framework for Generating Multivariate Explanations in Bayesian Networks
Changhe Yuan, Tsai-Ching Lu

693: Lifted Probabilistic Inference with Counting Formulas
Brian Milch, Luke S. Zettlemoyer, Kristian Kersting, Michael Haimes, Leslie Pack Kaelbling

Natural-Language Processing 3

474: Hidden Dynamic Probabilistic Models for Labeling Sequence Data
Xiaofeng Yu, Wai Lam

651: Adapting ADtrees for High Arity Features
Robert Van Dam, Irene Langkilde-Geary, Dan Ventura

899: Active Learning for Pipeline Models
Dan Roth, Kevin Small

Human Computer Interaction I

852: Automating To-Do Lists for Users: Interpretation of To-Dos for Selecting and Tasking Agents
Yolanda Gil, Varun Ratnakar

487: Prediction and Change Detection in Sequential Data for Interactive Applications
Jun Zhou, Li Cheng, Walter F. Bischof

Nectar: Learning and Activity Recognition

Nectar-9: Make3D: Depth Perception from a Single Still Image
Ashutosh Saxena, Min Sun, Andrew Y. Ng

Nectar-57: Achieving Master Level Play in 9 x 9 Computer Go
Sylvain Gelly, David Silver

Nectar-66: Video Activity Recognition in the Real World
Anthony Hoogs, A. G. Amitha Perera

3:00 - 4:00 pm

Computational Biology

541: Generating Application-Specific Benchmark Models for Complex Systems
Jun Wang, Gregory Provan

678: Using Knowledge Driven Matrix Factorization to Reconstruct Modular Gene Regulatory Network
Yang Zhou, Zheng Li, Xuerui Yang, Linxia Zhang, Shireesh Srivastava, Rong Jin, Christina Chan

Distributed COP

830: Resource Constrained Distributed Constraint Optimization with Virtual Variables
Toshihiro Matsui, Hiroshi Matsuo, Marius Silaghi, Katsutoshi Hirayama, Makoto Yokoo

125: Anytime Local Search for Distributed Constraint Optimization
Roie Zivan

313: H-DPOP: Using Hard Constraints for Search Space Pruning in DCOP
Akshat Kumar, Adrian Petcu, Boi Faltings

Logic Programming and Knowledge Engineering

185: Revising Imprecise Probabilistic Beliefs in the Framework of Probabilistic Logic Programming
Anbu Yue, Weiru Liu

74: Abductive Logic Programming by Nonground Rewrite Systems
Fangzhen Lin, Jia-Huai You

701: Minimal Contraction of Preference Relations
Denis Mindolin, Jan Chomicki

POMDPs

217: A Variance Analysis for POMDP Policy Evaluation
Mahdi Milani Fard, Joelle Pineau, Peng Sun

464: Symbolic Heuristic Search Value Iteration for Factored POMDPs
Hyeong Seop Sim, Kee-Eung Kim, Jin Hyung Kim, Du-Seong Chang, Myoung-Wan Koo

469: Exploiting Symmetries in POMDPs for Point-Based Algorithms
Kee-Eung Kim

Reinforcement Learning / Invited Nectar

762: Economic Hierarchical Q-Learning
Erik G. Schultink, Ruggiero Cavallo, David C. Parkes

935: Potential-based Shaping in Model-based Reinforcement Learning
John Asmuth, Michael L. Littman, Robert Zinkov

Nectar: Predicting Human Brain Activity Associated with the Meanings of Nouns
Tom Mitchell, Svetlana Shinkareva, Andrew Carlson, Kai-Min Chang, Vicente Malave, Rob Mason, Marcel Just

Human Computer Interaction 2

834: Exposing Parameters of a Trained Dynamic Model for Interactive Music Creation
Dan Morris, Ian Simon, Sumit Basu

789: Another Look at Search-Based Drama Management
Mark J. Nelson, Michael Mateas

252: Towards Automatic Animated Storyboarding
Patrick Ye, Timothy Baldwin

Nectar / Senior: Knowledge Representation and Logic

Nectar-31: Abduction with Bounded Treewidth: From Theoretical Tractability to Practically Efficient Computation
Georg Gottlob, Reinhard Pichler, Fang Wei

Nectar-56: Magic Sets for Data Integration
Wolfgang Faber, Gianluigi Greco, Nicola Leone

Senior: What Is Answer Set Programming?
Vladimir Lifschitz

4:20 - 5:20 pm

Multiagent Systems 3

800: Achieving Cooperation in a Minimally Constrained Environment
Steven Damer, Maria Gini

448: Computer-Aided Proofs of Arrow's and Other Impossibility Theorems
Fangzhen Lin, Pingzhong Tang

Computational Complexity

901: On the Decidability of Role Mappings between Modular Ontologies
Jie Bao, George Voutsadakis, Giora Slutzki, Vasant Honavar

181: Extending the Knowledge Compilation Map: Krom, Horn, Affine and Beyond
Hélène Fargier, Pierre Marquis

Model-Based Reasoning 2

110: A Scalable Jointree Algorithm for Diagnosability
Anika Schumann, Jinbo Huang

198: A Formalization of Program Debugging in the Situation Calculus
Yongmei Liu

Decision Making

813: Preference Aggregation with Graphical Utility Models
Christophe Gonzales, Patrice Perny, Sergio Queiroz

857: Optimal Testing of Structured Knowledge
Michael Munie, Yoav Shoham

1030: Piecewise Linear Dynamic Programming for Constrained POMDPs
Joshua D. Isom, Sean P. Meyn, Richard D. Braatz

Natural-Language Processing 4

886: Cross-lingual Propagation for Morphological Analysis
Benjamin Snyder, Regina Barzilay

915: Speech-enabled Card Games for Language Learners
Ian McGraw, Stephanie Seneff

316: Discourse Topic and Gestural Form
Jacob Eisenstein, Regina Barzilay, Randall Davis

AI and the Web: Mining Web Logs and Blogs

AIW-64: Mining Translations of Web Queries from Web Click-through Data
Rong Hu, Weizhu Chen, Jian Hu, Yansheng Lu, Zheng Chen, Qiang Yang

AIW-108: Finding Cars, Goddesses and Enzymes: Parametrizable Acquisition of Labeled Instances for Open-Domain Information Extraction
Benjamin Van Durme, Marius Pasca

AIW-123: Hierarchical Location and Topic Based Query Expansion
Shu Huang, Qiankun Zhao, Prasenjit Mitra, C. Lee Giles