

AAAI-11 Technical Program Schedule

Monday, August 8

6:00 – 7:00 pm
AAAI-11 Opening Reception

Tuesday, August 9

8:30 - 9:00 am
Grand Ballroom, Street Level
AAAI-11/IAAI-11 Opening Ceremony

Welcome and Opening Remarks
Outstanding Award Presentations -- Papers, SPC Member, PC Member
Wolfram Burgard and Dan Roth, AAAI-11 Program Cochairs

IAAI Welcome, Robert S. Engelmore Award, Deployed Application Award Announcements
Daniel Shapiro, IAAI-11 Conference Chair, Markus Fromherz, IAAI-11 Program Cochair, and David Leake, AI Magazine Editor-in-Chief

Feigenbaum Prize, AAAI Classic Paper Award, Distinguished Service Award
Fellows Announcement, Senior Member Recognition
Eric Horvitz, AAAI Past President and Awards Committee Chair
Henry Kautz, AAAI President

9:15 – 10:00 am
AAAI-11 25th Conference Anniversary Panel
Moderator: Manuela Veloso, AAAI President-Elect (Carnegie Mellon University)

10:00 – 10:20 am
Coffee Break

10:20 - 11:20 am
IAAI-11/AAAI-11 Joint Invited Talk: Building Watson: An Overview of DeepQA for the Jeopardy! Challenge
David Ferrucci (IBM T J Watson Research Center)

11:30 am – 12:30 pm

Description Logics 1

281: Revisiting Semantics for Epistemic Extensions of Description Logics
Anees Mehdi, Sebastian Rudolph

242: Integrating Rules and Description Logics by Circumscription
Qian Yang, Jia-Huai You, Zhiyong Feng

626: Conjunctive Query Inseparability of OWL 2QL TBoxes
B. Konev, R. Kontchakov, M. Ludwig, T. Schneider, F. Wolter, M. Zakharyashev

Machine Learning 1

6024: Nectar: Quantity Makes Quality: Learning with Partial Views
Nicolò Cesa-Bianchi, Shai Shalev-Shwartz, Ohad Shamir

31: Symmetric Graph Regularized Constraint Propagation
Zhenyong Fu, Zhiwu Lu, Horace H. S. Ip, Yuxin Peng, Hongtao Lu

994: Improving Semi-Supervised Support Vector Machines through Unlabeled Instances Selection
Yu-Feng Li, Zhi-Hua Zhou

A* Search

64: Block A*: Database-Driven Search with Applications in Any-Angle Path-Planning
Peter Yap, Neil Burch, Rob Holte, Jonathan Schaeffer

841: Optimal Graph Search with Iterated Graph Cuts
David Burkett, David Hall, Dan Klein

231: ANA*: Anytime Nonparametric A*
Jur van den Berg, Rajat Shah, Arthur Huang, Ken Goldberg

Mechanism Design 1

229: Dominant-Strategy Auction Design for Agents with Uncertain, Private Values
David R. M. Thompson, Kevin Leyton-Brown

425: Market Manipulation with Outside Incentives
Yiling Chen, Xi Alice Gao, Rick Goldstein, Ian A. Kash

190: Incentive-Compatible Escrow Mechanisms
Jens Witkowski, Sven Seuken, David C. Parkes

Social Networks 1

505: Composite Social Network for Predicting Mobile Apps Installation
Wei Pan, Nadav Aharony, Alex (Sandy) Pentland

311: Simulated Annealing Based Influence Maximization in Social Networks
Qingye Jiang, Guojie Song, Gao Cong, Yu Wang, Wenjun Si, Kunqing Xie

876: Co-Evolution of Selection and Influence in Social Networks
Yoon-Sik Cho, Greg Ver Steeg, Aram Galstyan

Relational Probabilistic Models

326: Abductive Markov Logic for Plan Recognition
Parag Singla, Raymond J. Mooney

681: Markov Logic Sets: Towards Lifted Information Retrieval Using PageRank and Label Propagation
Marion Neumann, Babak Ahmadi, Kristian Kersting

305: Coarse-to-Fine Inference and Learning for First-Order Probabilistic Models
Chloé Kiddon, Pedro Domingos

Multi-Agent Systems 1

139: Constrained Coalition Formation
Talal Rahwan, Tomasz Michalak, Edith Elkind, Piotr Faliszewski, Jacek Sroka, Michael Wooldridge, Nicholas R. Jennings

560: Computing an Extensive-Form Perfect Equilibrium in Two-Player Games
Nicola Gatti, Claudio Iuliano

341: Learning in Repeated Games with Minimal Information: The Effects of Learning Bias
Jacob W. Crandall, Asad Ahmed, Michael A. Goodrich

IAAI: Knowledge Access 1 (News Finding)

Deployed 4: NewsFinder: Automating an Artificial Intelligence News Service
Liang Dong, Reid G. Smith, Bruce Buchanan

Deployed 9: The News that Matters to You Design and Deployment of a Personalized News Service
Mark J. Stefik, Lance Good

EAAI: Opening and Invited Talk

Welcome: Mehran Sahami, EAAI-11 Organizing Committee

EAAI-11 Invited Talk: Rethinking Educational Impact: Topical Robotics for Social Action

Illah Nourbakhsh (Carnegie Mellon University)

Robotics Program: Tuesday AM Schedule

9:30 – 11:00: Chess Challenge
10-10:30, 11-11:30: Learning by Demonstration
10:00 am – 4:30 pm: The Robotics Education Track

12:30 – 1:50 pm
Lunch Break

1:50 - 2:50 pm

Grand Ballroom, Street Level

EAAI-11 Invited Talk: From Turn-taking to Social Ties

Karrie Karahalios (University of Illinois)

IAAI: Planning and Search 1 (Military Operations)

10: Hybrid Qualitative Simulation of Military Operations
Thomas Hinrichs, Kenneth Forbus, Johan de Kleer, Sungwook Yoon, Eric Jones, Robert Hyland, Jason Wilson

Deployed 49: Learning by Demonstration Technology for Military Planning and Decision Making: A Deployment Story
Karen Myers, Jake Kolojejchick, Carl Angiolillo, Tim Cummings, Tom Garvey, Melinda Gervasio, Will Haines, Chris Jones, Janette Knittel, David Morley, William Ommert, Scott Potter

EAAI: Teaching AI with Games

Teaching Introductory Artificial Intelligence through Java-Based Games
Amy McGovern, Zachery Tidwell, and Derek Rushing

Introducing Uninformed Search with Tangible Board Games
Fred Martin

Teaching Reinforcement Learning with Mario: An Argument and Case Study
Matthew Taylor

3:00 - 4:00 pm

Knowledge Representation and Reasoning 1

54: A Modular Consistency Proof for DOLCE
Oliver Kutz, Till Mossakowski

624: Relational Blocking for Causal Discovery
Matthew J. H. Rattigan, Marc Maier, David Jensen

423: A Semantical Account of Progression in the Presence of Uncertainty
Vaishak Belle, Gerhard Lakemeyer

Classification 1

799: Across-Model Collective Ensemble Classification
Hoda Eldardiry, Jennifer Neville

385: Towards Maximizing the Area under the ROC Curve for Multi-Class Classification Problems
Ke Tang, Rui Wang, Tianshi Chen

998: Adaptive Large Margin Training for Multilabel Classification
Yuhong Guo, Dale Schuurmans

Search 1

466: Optimal Packing of High-Precision Rectangles
Eric Huang, Richard E. Korf

1035: Intrinsic Chess Ratings
Kenneth W. Regan, Guy McC. Haworth

143: Euclidean Heuristic Optimization
Chris Rayner, Michael Bowling, Nathan Sturtevant

Natural Language Processing 1

151: WikiSimple: Automatic Simplification of Wikipedia Articles
Kristian Woodsend, Mirella Lapata

237: Leveraging Wikipedia Characteristics for Search and Candidate Generation in Question Answering
Jennifer Chu-Carroll, James Fan

872: Grammatical Error Detection for Corrective Feedback Provision in Oral Conversations
Sungjin Lee, Hyungjong Noh, Kyusong Lee, Gary Geunbae Lee

Activity and Plan Recognition

387: Recognizing Plans with Loops Represented in a Lexicalized Grammar
Christopher W. Geib, Robert P. Goldman

327: Unsupervised Learning of Human Behaviours
Sook-Ling Chua, Stephen Marsland, Hans W. Guesgen

2039: PGAI: Balancing Safety and Exploitability in Opponent Modeling
Zhikun Wang, Abdeslam Boularias, Katharina Mülling, Jan Peters

Graphical Models

1025: Pushing the Power of Stochastic Greedy Ordering Schemes for Inference in Graphical Models
Kalev Kask, Andrew Gelfand, Lars Otten, Rina Dechter

1029: Stopping Rules for Randomized Greedy Triangulation Schemes
Andrew E. Gelfand, Kalev Kask, Rina Dechter

6028: Nectar: Global Seismic Monitoring: A Bayesian Approach
Nimar S. Arora, Stuart Russell, Paul Kidwell, Erik Sudderth

Multi-Agent Systems 2

758: A Game-Theoretic Approach to Influence in Networks
Mohammad T. Irfan, Luis E. Ortiz

815: Commitment to Correlated Strategies
Vincent Conitzer, Dmytro Korzhyk

1037: Refinement of Strong Stackelberg Equilibria in Security Games
Bo An, Milind Tambe, Fernando Ordonez, Eric Shieh, Christopher Kiekintveld

IAAI: Intelligence Analysis

3: Abductive Inference for Combat: Using SCARE-S2 to Find High-Value Targets in Afghanistan
Paulo Shakarian, Margo K. Nagel, Brittany E. Schuetzle, V. S. Subrahmanian

46: Monitoring Entities in an Uncertain World: Entity Resolution and Referential Integrity
Steven N. Minton, Sofus A. Macskassy, Peter LaMonica, Kane See, Craig A. Knoblock, Greg Barish, Matthew Michelson, Raymond Liuzzi

EAAI: AI and Education

Science Fiction as an Introduction to AI Research
Judy Goldsmith and Nicholas Mattei

Playing to Program: An Intelligent Programming Tutor for RUR-PLE (Poster Spotlight)
Marie desJardins, Amy Ciavolino, Robert Deloatch, and Eliana Feasley

Lightning Talks
Open microphone presentations

4:00 – 4:20 pm

Coffee Break

4:20 - 5:20 pm

Knowledge Representation and Reasoning 2

67: Causal Theories of Actions Revisited
Fangzhen Lin, Mikhail Soutchanski

658: Preferred Explanations: Theory and Generation via Planning
Shirin Sohrabi, Jorge A. Baier, Sheila A. McIlraith

864: Transportability of Causal and Statistical Relations: A Formal Approach
Judea Pearl, Elias Bareinboim

Sparse Methods

527: Sparse Matrix-Variate t Process Blockmodels
Zenglin Xu, Feng Yan, Yuan Qi

148: Sparse Group Restricted Boltzmann Machines
Heng Luo, Ruimin Shen, Changyong Niu, Carsten Ullrich

53: Efficiently Learning a Distance Metric for Large Margin Nearest Neighbor Classification
Kyoungup Park, Chunhua Shen, Zhihui Hao, Junae Kim

Search 2

464: Inner Regions and Interval Linearizations for Global Optimization
Gilles Trombettoni, Ignacio Araya, Bertrand Neveu, Gilles Chabert

473: Optimal Route Planning for Electric Vehicles in Large Networks
Jochen Eisner, Stefan Funke, Sabine Storandt

837: Succinct Set-Encoding for State-Space Search
Tim Schmidt, Rong Zhou

Natural Language Processing 2

6: Enhancing Semantic Role Labeling for Tweets Using Self-Training
Xiaohua Liu, Kuan Li, Ming Zhou, Zhongyang Xiong

402: Learning to Interpret Natural Language Navigation Instructions from Observations
David L. Chen, Raymond J. Mooney

3032: Analogical Dialogue Acts: Supporting Learning by Reading Analogies in Instructional Texts
David M. Barbella, Kenneth D. Forbus

Computational Social Choice 1

378: Campaign Management under Approval-Driven Voting Rules
Ildikó Schlotter, Piotr Faliszewski, Edith Elkind

221: Optimal Envy-Free Cake Cutting
Yuga J. Cohler, John K. Lai, David C. Parkes, Ariel D. Procaccia

787: Dominating Manipulations in Voting with Partial Information
Vincent Conitzer, Toby Walsh, Lirong Xia

Computational Sustainability 1: Energy and Natural Resources

5012: Stochastic Model Predictive Controller for the Integration of Building Use and Temperature Regulation
Alie El-Din Mady, Gregory M. Provan, Conor Ryan, Kenneth N. Brown

5026: Linear Dynamic Programs for Resource Management
Marek Petrik, Shlomo Zilberstein

5039: Hybrid Planning with Temporally Extended Goals for Sustainable Ocean Observing
Hui Li, Brian Williams

Mechanism Design 2

429: Efficiency and Privacy Tradeoffs in Mechanism Design
Xin Sui, Craig Boutilier

748: On Expressing Value Externalities in Position Auctions
Florin Constantin, Malvika Rao, Chien-Chung Huang, David C. Parkes

923: VCG Redistribution with Gross Substitutes
Mingyu Guo

IAAI: Security and Privacy

5: A Machine Learning Based System for Semi-Automatically Redacting Documents
Chad Cumby, Rayid Ghani

42: Testing Cyber Security with Simulated Humans

Jim Blythe, Aaron Botello, Joseph Sutton, David Mazzoco, Jerry Lin, Marc Spraragen, Michael Zyda

EAAI: Model AI Assignments Session

Clue Deduction: An Introduction to Satisfiability Reasoning

Todd Neller, Zdravko Markov, Ingrid Russell, and Dave Musicant

Mastermind Course Project

Marie desJardins and Tim Oates

Reinforcement Learning in a Generalized Mario Domain

Matthew Taylor

Robotics Program: Tuesday PM Schedule

3:30 – 5:00: Chess Challenge

12:30-1:00, 2-2:30, 3-3:30, 4-4:30: Learning by Demonstration

10:00 am – 4:30 pm: The Robotics Education Track

Wednesday, August 10

9:00 – 10:00 am

AAAI-11 Invited Talk: Registration and Recognition for Robotics

Kurt Konolige (Willow Garage, Inc and Stanford University)

IAAI: Machine Learning 1 (Health and Medicine)

Deployed 31: Machine Learning and Sensor Fusion for Estimating Continuous Energy Expenditure

Nisarg Vyas, Jonathan Farrington, David Andre and John (Ivo) Stivoric

Detecting Falls with Location Sensors and Accelerometers

Mitja Lustrek, Hristijan Gjoreski, Simon Kozina, Bozidara Cvetkovic, Violeta Mirchevska, Matjaz Gams

10:00 – 10:20 am

Coffee Break

10:20 - 11:20 am

Knowledge Representation and Reasoning 3

60: Spectrum-Based Sequential Diagnosis

Alberto Gonzalez-Sanchez, Rui Abreu, Hans-Gerhard Gross, Arjan J. C. van Gemund

521: The Epistemic Logic Behind the Game Description Language

Ji Ruan, Michael Thielscher

685: Higher-Order Description Logics for Domain Metamodeling

Giuseppe De Giacomo, Maurizio Lenzerini, Riccardo Rosati

Learning Preferences and Social Recommendations

256: Social Recommendation Using Low-Rank Semidefinite Program
Jianke Zhu, Hao Ma, Chun Chen, Jiajun Bu

380: Collaborative Users' Brand Preference Mining across Multiple Domains from Implicit Feedbacks
Jian Tang, Jun Yan, Lei Ji, Ming Zhang, Shaodan Guo, Ning Liu, Xianfang Wang, Zheng Chen

491: Scaling Up Reinforcement Learning through Targeted Exploration
Timothy A. Mann, Yoonsuck Choe

Search 3

484: A Novel Technique for Avoiding Plateaus of Greedy Best-First Search in Satisficing Planning
Tatsuya Imai, Akihiro Kishimoto

93: The Compressed Differential Heuristic
Meir Goldenberg, Nathan Sturtevant, Ariel Felner, Jonathan Schaeffer

6019: Nectar: The Next Best Solution
R. Brafman, E. Pilotto, F. Rossi, D. Salvagnin, K. B. Venable, T. Walsh

Natural Language Processing 3

488: Identifying Evaluative Sentences in Online Discussions
Zhongwu Zhai, Bing Liu, Lei Zhang, Hua Xu, Peifa Jia

579: Partially Supervised Text Classification with Multi-Level Examples
Tao Liu, Xiaoyong Du, Minghui Li, Yongdong Xu, Xiaolong Wang

742: Exploiting Phase Transition in Latent Networks for Clustering
Vahed Qazvinian, Dragomir R. Radev

Computational Social Choice 2

35: Complexity of and Algorithms for Borda Manipulation
Jessica Davies, George Katsirelos, Nina Narodytska, Toby Walsh

884: Manipulation of Nanson's and Baldwin's Rules
Nina Narodytska, Toby Walsh, Lirong Xia

590: How to Calibrate the Scores of Biased Reviewers by Quadratic Programming
Magnus Roos, Jörg Rothe, Björn Scheuermann

Computational Sustainability 2: Economics, Society & Sustainability Impacts

5025: Verifying Intervention Policies to Counter Infection Propagation over Networks: A Model Checking Approach
Ganesh Ram Santhanam, Yuly Suvorov, Samik Basu, Vasant Honavar

5040: Discovering Life Cycle Assessment Trees from Impact Factor Databases
Naren Sundaravaradan, Debprakash Patnaik, Naren Ramakrishnan, Manish Marwah, Amip Shah

5058: Modeling and Monitoring Crop Disease in Developing Countries
John A. Quinn, Kevin Leyton-Brown, Ernest Mwebaze

Multi-Agent Systems 3

226: Branch and Price for Multi-Agent Plan Recognition

Bikramjit Banerjee, Landon Kraemer

684: Strategic Information Disclosure to People with Multiple Alternatives
Amos Azaria, Zinovi Rabinovich, Sarit Kraus, Claudia V. Goldman

741: Coordinated Multi-Agent Reinforcement Learning in Networked Distributed POMDPs
Chongjie Zhang, Victor Lesser

**IAAI-11 Invited Talk: Robert S. Engelmore Memorial Award Lecture:
Playing with Cases: Rendering Expressive Music Performance with Case-Based Reasoning**

Ramon Lopez de Mantaras (Artificial Intelligence Research Institute (IIIA) and Spanish National Research Council (CSIC))

EAAI-11 Teaching and Mentoring Workshop I

Introduction and Keynote Lecture: Creating Classroom Engagement through Active Learning
Mehran Sahami (Stanford University)

11:30 am - 12:30 pm

Description Logics 2

687: A Closer Look at the Probabilistic Description Logic Prob-EL
Víctor Gutiérrez-Basulto, Jean Christoph Jung, Carsten Lutz, Lutz Schröder

735: Two-Dimensional Description Logics for Context-Based Semantic Interoperability
Szymon Klarman, Víctor Gutiérrez-Basulto

255: Adding Default Attributes to EL^{++}
Piero A. Bonatti, Marco Faella, Luigi Sauro

Density Ratio Estimation and Manifolds

198: Direct Density-Ratio Estimation with Dimensionality Reduction via Hetero-Distributional Subspace Analysis
Makoto Yamada, Masashi Sugiyama

293: A Generalised Solution to the Out-of-Sample Extension Problem in Manifold Learning
Harry Strange, Reyer Zwiggelaar

10: Ordinal Regression via Manifold Learning
Yang Liu, Yan Liu, Keith C. C. Chan

Cost-Sensitive Planning

930: Planning in Domains with Cost Function Dependent Actions
Mike Phillips, Maxim Likhachev

424: Heuristic Search for Large Problems with Real Costs
Matthew Hatem, Ethan Burns, Wheeler Ruml

595: Improving Cost-Optimal Domain-Independent Symbolic Planning
Peter Kissmann, Stefan Edelkamp

Natural Language Processing 4

561: Tree Sequence Kernel for Natural Language
Jun Sun, Min Zhang, Chew Lim Tan

632: A Simple and Effective Unsupervised Word Segmentation Approach

Songjian Chen, Yabo Xu, Huiyou Chang

728: Lossy Conservative Update (LCU) Sketch: Succinct Approximate Count Storage
Amit Goyal, Hal Daumé III

Game-Theoretic Solution Techniques

319: Automated Action Abstraction of Imperfect Information Extensive-Form Games
John Hawkin, Robert Holte, Duane Szafron

515: Risk-Averse Strategies for Security Games with Execution and Observational Uncertainty
Zhengyu Yin, Manish Jain, Milind Tambe, Fernando Ordóñez

45: Quick Polytope Approximation of all Correlated Equilibria in Stochastic Games
Liam MacDermed, Karthik S. Narayan, Charles L. Isbell, Lora Weiss

Reasoning and Planning and the Web

4111: AIW: Continual Planning with Sensing for Web Service Composition
Eirini Kaldeli, Alexander Lazovik, Marco Aiello

4051: AIW: Towards Large-Scale Collaborative Planning: Answering High-Level Search Queries Using Human Computation
Edith Law, Haoqi Zhang

4077: AIW: Temporal Dynamics of User Interests in Tagging Systems
Dawei Yin, Liangjie Hong, Zhenzhen Xue, Brian D. Davison

Multi-Agent Systems 4

643: A Kernel-Based Iterative Combinatorial Auction
Sébastien Lahaie

761: Mechanism Design for Federated Sponsored Search Auctions
Sofia Ceppi, Nicola Gatti, Enrico H. Gerding

644: *M*-Unit EigenAnt: An Ant Algorithm to Find the *M* Best Solutions
Sameena Shah, Jayadeva, Ravi Kothari, Suresh Chandra

IAAI: Machine Learning 2

40: Emerging Applications for Intelligent Diabetes Management
Cindy Marling, Matthew Wiley, Razvan Bunescu, Jay Shubrook, Frank Schwartz

38: Learning a Skill-Teaching Curriculum with Dynamic Bayes Nets
Derek T. Green, Thomas J. Walsh, Paul R. Cohen

EAAI-11 Teaching and Mentoring Workshop II: Active Learning Working Sessions

Robotics Program: Wednesday AM Schedule

9:30 – 11:00: Chess Challenge

10-10:30, 11-11:30: Learning by Demonstration

10:00 am – 4:30 pm: The Robotics Education Track

12:30 – 1:50 pm

Lunch Break

1:50 - 2:50 pm

AAAI-11 Invited Talk: Strategic Intelligence in Social Networks

Michael Kearns (University of Pennsylvania)

IAAI: Natural Language

15: Automatically Mapping Natural Language Requirements to Domain-Specific Process Models

Uthayashankar Thayasivam, Kunal Verma, Alex Kass, Reymonrod Vasquez

36: The Stock Sonar — Sentiment Analysis of Stocks Based on a Hybrid Approach

Ronen Feldman, Benjamin Rosenfeld, Roy Bar-Haim, Moshe Fresko

EAAI-11 Teaching and Mentoring Workshop III: Presentations and Review (2:00-3:00)

3:00 - 4:00 pm

Knowledge Representation and Reasoning 4

572: Trajectory Regression on Road Networks

Tsuyoshi Idé, Masashi Sugiyama

891: Learning from Spatial Overlap

Michael H. Coen, M. Hidayath Ansari, Nathanael Fillmore

333: Language Splitting and Relevance-Based Belief Change in Horn Logic

Maonian Wu, Dongmo Zhang, Mingyi Zhang

Matrix Approximation, Completion, and Factorization

792: Multi-Level Cluster Indicator Decompositions of Matrices and Tensors

Dijun Luo, Chris Ding, Heng Huang

217: A Fast Spectral Relaxation Approach to Matrix Completion via Kronecker Products

Hui Zhao, Jiuqiang Han, Naiyan Wang, Congfu Xu, Zhihua Zhang

296: Towards Evolutionary Nonnegative Matrix Factorization

Fei Wang, Hanghang Tong, Ching-Yung Lin

Reasoning about Plans 1

315: On Improving Conformant Planners by Analyzing Domain-Structures

Khoi Nguyen, Vien Tran, Tran Cao Son, Enrico Pontelli

393: A Switching Planner for Combined Task and Observation Planning

Moritz Göbelbecker, Charles Gretton, Richard Dearden

24: A POMDP Model of Eye-Hand Coordination

Tom Erez, Julian J. Trumper, William D. Smart, Stan C. A. M. Gielen

Natural Language Processing 5

543: Semantic Relatedness Using Salient Semantic Analysis

Samer Hassan, Rada Mihalcea

906: Using Semantic Cues to Learn Syntax

Tahira Naseem, Regina Barzilay

738: Integrating Clustering and Multi-Document Summarization by Bi-Mixture Probabilistic Latent Semantic Analysis (PLSA) with Sentence Bases

Chao Shen, Tao Li, Chris H. Q. Ding

Social Networks 2

1044: Item-Level Social Influence Prediction with Probabilistic Hybrid Factor Matrix Factorization

Peng Cui, Fei Wang, Shiqiang Yang, Lifeng Sun

4029: AIW: Trust Transitivity in Complex Social Networks

Guanfeng Liu, Yan Wang, Mehmet A. Orgun

4045: AIW: Identifying Missing Node Information in Social Networks

Ron Eyal, Sarit Kraus, Avi Rosenfeld

Knowledge and Text

3011: II: Cross Media Entity Extraction and Linkage for Chemical Documents

Su Yan, W. Scott Spangler, Ying Chen

4067: AIW: SemRec: A Semantic Enhancement Framework for Tag Based Recommendation

Guandong Xu, Yanhui Gu, Peter Dolog, Yanchun Zhang, Masaru Kitsuregawa

4008: AIW: Creative Introspection and Knowledge Acquisition: Learning about the World through Introspective Questions and Exploratory Metaphors

Tony Veale, Guofu Li

Multi-Agent Systems 5

438: Comparing Agents' Success against People in Security Domains

Raz Lin, Sarit Kraus, Noa Agmon, Samuel Barrett, Peter Stone

659: Parameterized Complexity of Problems in Coalitional Resource Games

Rajesh Chitnis, MohammadTaghi Hajiaghayi, Vahid Liaghat

583: A Distributed Anytime Algorithm for Dynamic Task Allocation in Multi-Agent Systems

Kathryn S. Macarthur, Ruben Stranders, Sarvapali D. Ramchurn, Nicholas R. Jennings

IAAI: Data Mining

8: Accelerating the Discovery of Data Quality Rules: A Case Study

Peter Z. Yeh, Colin A. Puri, Mark Wagman, Ajay K. Easo

24: Modeling Player Retention in Madden NFL 11

Ben G. Weber, Michael John, Michael Mateas, Arnav Jhala

EAAI-11 Teaching and Mentoring Workshop IV: Teaching Challenges in the Classroom

4:00 – 4:20 pm

Coffee Break

4:20 - 5:20 pm

Knowledge Representation and Reasoning 5

467: Progression Semantics for Disjunctive Logic Programs

Yi Zhou, Yan Zhang

646: An Algebraic Prolog for Reasoning about Possible Worlds

Angelika Kimmig, Guy Van den Broeck, Luc De Raedt

328: Bounded Forgetting

Yi Zhou, Yan Zhang

Reinforcement Learning 1

496: Tracking User-Preference Varying Speed in Collaborative Filtering
Ruijiang Li, Bin Li, Cheng Jin, Xiangyang Xue, Xingquan Zhu

962: An Online Spectral Learning Algorithm for Partially Observable Nonlinear Dynamical Systems
Byron Boots, Geoffrey J. Gordon

368: Non-Parametric Approximate Linear Programming for MDPs
Jason Pazis, Ronald Parr

Reasoning about Plans 2

383: Planning for Operational Control Systems with Predictable Exogenous Events
Ronen I. Brafman, Carmel Domshlak, Yagil Engel, Zohar Feldman

631: Extending Classical Planning Heuristics to Probabilistic Planning with Dead-Ends
Florent Teichteil-Königsbuch, Vincent Vidal, Guillaume Infantes

576: Exploiting Path Refinement Abstraction in Domain Transition Graphs
Peter Gregory, Derek Long, Craig McNulty, Susanne Murphy

Perception

2007: PGAI: DISCO: Describing Images Using Scene Contexts and Objects
Ifeoma Nwogu, Yingbo Zhou, Christopher Brown

2022: PGAI: A Scalable Tree-Based Approach for Joint Object and Pose Recognition
Kevin Lai, Liefeng Bo, Xiaofeng Ren, Dieter Fox

2075: PGAI: Recognizing Text through Sound Alone
Wenzhe Li, Tracy Hammond

Computational Sustainability 3: Energy and Autonomous Traffic Management

5037: Efficient Energy-Optimal Routing for Electric Vehicles
Martin Sachenbacher, Martin Leucker, Andreas Artmeier, Julian Haselmayr

5021: Enforcing Liveness in Autonomous Traffic Management
Tsz-Chiu Au, Neda Shahidi, Peter Stone

5059: Green Driver: AI in a Microcosm
Jim Apple, Paul Chang, Aran Clauson, Heidi Dixon, Hiba Fakhoury, Matt Ginsberg, Erin Keenan, Alex Leighton, Kevin Scavezze, Bryan Smith

Search Engines & Question Answering

4035: AIW: A Whole Page Click Model to Better Interpret Search Engine Click Data
Weizhu Chen, Zhanglong Ji, Si Shen, Qiang Yang

4140: AIW: Artificial Intelligence for Artificial Artificial Intelligence
Peng Dai, Mausam, Daniel S. Weld

4066: AIW: Fast Query Recommendation by Search
Qixia Jiang, Maosong Sun

Constraints 1

628: Core-Guided Binary Search Algorithms for Maximum Satisfiability
Federico Heras, Antonio Morgado, Joao Marques-Silva

911: Solving Difficult CSPs with Relational Neighborhood Inverse Consistency
Robert J. Woodward, Shant Karakashian, Berthe Y. Choueiry, Christian Bessiere

680: Extensible Automated Constraint Modelling
Ozgur Akgun, Ian Miguel, Chris Jefferson, Alan M. Frisch, Brahim Hnich

IAAI: Planning and Search 2

20: Designing Resilient Long-Reach Passive Optical Networks
Deepak Mehta, Barry O'Sullivan, Luis Quesada, Marco Ruffini, David Payne, Linda Doyle

35: Online Planning to Control a Packaging Infeed System
Minh Do, Lawrence Lee, Rong Zhou, Lara Crawford, Serdar Uckun

EAAI: CS2013: ACM/IEEE-CS Curriculum Revision

Mehran Sahami (Stanford University) and Zachary Dodds (Harvey Mudd College)

Robotics Program: Wednesday PM Schedule

12:30-1:00, 2-2:30, 3-3:30, 4-4:30: Learning by Demonstration

10:00 am – 4:30 pm: The Robotics Education Track

6:30-9:30: Robot Demos

6:30 – 9:30 pm

AAAI-11 Poster Session Reception

Thursday, August 11

9:00 – 10:00 am

AAAI-11 Invited Talk: Towards Artificial Systems: What Can We Learn from Human Perception?

Heinrich H. Buehlhoff (Max Planck Institute for Biological Cybernetics)

IAAI: Knowledge Access 2 (9:30 AM)

Deployed 44: The Glass Infrastructure: Using Common Sense to Create a Dynamic, Place-Based Social Information System

Catherine Havasi, Richard Borovoy, Boris Kizelshteyn, Polychronis Ypodimatopoulos, Jon Ferguson, Henry Holtzman, Andrew Lippman, Dan Schultz, Matthew Blackshaw, Greg Elliott, Chaki Ng

10:00 – 10:20 am

Coffee Break

10:20 - 11:20 am

Knowledge Based Information Systems

695: Deriving a Web-Scale Common Sense Fact Database

Niket Tandon, Gerard de Melo, Gerhard Weikum

4138: AIW: Commonsense Causal Reasoning Using Millions of Personal Stories

Andrew S. Gordon, Cosmin Adrian Bejan, Kenji Sagae

124: COSTRIAGE: A Cost-Aware Triage Algorithm for Bug Reporting Systems

Jin-woo Park, Mu-Woong Lee, Jinhan Kim, Seung-won Hwang, Sunghun Kim

Reinforcement Learning 2

455: Differential Eligibility Vectors for Advantage Updating and Gradient Methods
Francisco S. Melo

635: Basis Function Discovery Using Spectral Clustering and Bisimulation Metrics
Gheorghe Comanici, Doina Precup

41: Value Function Approximation in Reinforcement Learning Using the Fourier Basis
George Konidaris, Sarah Osentoski, Philip Thomas

Reasoning about Plans 3

6037: Nectar: Termination and Correctness Analysis of Cyclic Control
Siddharth Srivastava, Neil Immerman, Shlomo Zilberstein

854: Qualitative Numeric Planning
Siddharth Srivastava, Shlomo Zilberstein, Neil Immerman, Hector Geffner

577: Conjunctive Representations in Contingent Planning: Prime Implicates versus Minimal CNF Formula
Son Thanh To, Tran Cao Son, Enrico Pontelli

Robotics 1

2012: PGAI: Autonomous Skill Acquisition on a Mobile Manipulator
George Konidaris, Scott Kuindersma, Roderic Grupen, Andrew Barto

2028: PGAI: Understanding Natural Language Commands for Robotic Navigation and Mobile Manipulation
Stefanie Tellex, Thomas Kollar, Steven Dickerson, Matthew R. Walter, Ashis Gopal Banerjee, Seth Teller, Nicholas Roy

2054: PGAI: Multi-Observation Sensor Resetting Localization with Ambiguous Landmarks
Brian Coltin, Manuela Veloso

Computational Sustainability 4: Conservation Planning

5031: Dynamic Resource Allocation in Conservation Planning
Daniel Golovin, Andreas Krause, Beth Gardner, Sarah J. Converse, Steve Morey

5028: Policy Gradient Planning for Environmental Decision Making with Existing Simulators
Mark Crowley, David Poole

5018: The Steiner Multigraph Problem: Wildlife Corridor Design for Multiple Species
Katherine J. Lai, Carla P. Gomes, Michael K. Schwartz, Kevin S. McKelvey, David E. Calkin, Claire A. Montgomery

Search Engines & Question Answering

4020: AIW: Learning to Suggest Questions in Online Forums
Tom Chao Zhou, Chin-Yew Lin, Irwin King, Michael R. Lyu, Young-In Song, Yunbo Cao

4168: AIW: Integrating Community Question and Answer Archives
Wei Wei, Gao Cong, Xiaoli Li, See-Kiong Ng, Guohui Li

4036: AIW: Analyzing and Predicting Not-Answered Questions in Community-Based Question Answering Services
Lichun Yang, Shenghua Bao, Qingliang Lin, Xian Wu, Dingyi Han, Zhong Su, Yong Yu

Constraints 2

306: Distributed Constraint Optimization under Stochastic Uncertainty

Thomas Léauté, Boi Faltings

990: A Comparison of Lex Bounds for Multiset Variables in Constraint Programming
Y. C. Law, J. H. M. Lee, M. H. C. Woo, T. Walsh

94: Limits of Preprocessing
Stefan Szeider

IAAI-11 Invited Talk: HaloBook and Progress Towards Digital Aristotle
David Gunning (Vulcan Inc.)

11:30 am - 12:30 pm

Machine Learning 2

912: Mean Field Inference in Dependency Networks: An Empirical Study
Daniel Lowd, Arash Shamaei

172: Efficient Subspace Segmentation via Quadratic Programming
Shusen Wang, Xiaotong Yuan, Tiansheng Yao, Shuicheng Yan, Jialie Shen

433: Automatic Group Sparse Coding
Fei Wang, Noah Lee, Jimeng Sun, Jianying Hu, Shahram Ebadollahi

Transfer Learning

951: Selective Transfer between Learning Tasks Using Task-Based Boosting
Eric Eaton, Marie desJardins

924: Transfer Learning by Structural Analogy
Huayan Wang, Qiang Yang

195: Heterogeneous Transfer Learning with RBMs
Bin Wei, Christopher Pal

Reasoning about Plans 4

6026: Nectar: Planning with Specialized SAT Solvers
Jussi Rintanen

468: Exploiting Problem Symmetries in State-Based Planners
Nir Pochter, Aviv Zohar, Jeffrey S. Rosenschein

2053: PGAI: Self-Aware Traffic Route Planning
David Wilkie, Jur van den Berg, Ming Lin, Dinesh Manocha

Robotics 2

38: Online Graph Pruning for Pathfinding on Grid Maps
Daniel Harabor, Alban Grastien

753: Learning Dimensional Descent for Optimal Motion Planning in High-Dimensional Spaces
Paul Vernaza, Daniel D. Lee

409: Multiagent Patrol Generalized to Complex Environmental Conditions
Noa Agmon, Daniel Urieli, Peter Stone

Computational Sustainability 5: Smart Grid & Buildings

5027: Learned Behaviors of Multiple Autonomous Agents in Smart Grid Markets
Prashant P. Reddy, Manuela M. Veloso

5033: Decentralised Control of Micro-Storage in the Smart Grid
Thomas D. Voice, Perukrishnen Vytelingum, Sarvapali D. Ramchurn, Alex Rogers, Nicholas R. Jennings

5050: A Large-Scale Study on Predicting and Contextualizing Building Energy Usage
J. Zico Kolter, Joseph Ferreira Jr.

Multilingual Web

4024: AIW: Generating True Relevance Labels in Chinese Search Engine Using Clickthrough Data
Hengjie Song, Chunyan Miao, Zhiqi Shen

4027: AIW: Detecting Multilingual and Multi-Regional Query Intent in Web Search
Yi Chang, Ruiqiang Zhang, Srihari Reddy, Yan Liu

4079: AIW: Cross-Language Latent Relational Search: Mapping Knowledge across Languages
Nguyen Tuan Duc, Danushka Bollegala, Mitsuru Ishizuka

Constraints 3

140: A General Nogood-Learning Framework for Pseudo-Boolean Multi-Valued SAT
Siddhartha Jain, Ashish Sabharwal, Meinolf Sellmann

593: On the Complexity of BDDs for State Space Search: A Case Study in Connect Four
Stefan Edelkamp, Peter Kissmann

105: The Inter-League Extension of the Traveling Tournament Problem and its Application to Sports Scheduling
Richard Hoshino, Ken-ichi Kawarabayashi

12:30 – 1:50 pm
Lunch Break

1:50 - 2:50 pm

Multi-Task Learning

108: Multi-Task Learning in Square Integrable Space
Wei Wu, Hang Li, Yunhua Hu, Rong Jin

241: Multi-Task Learning in Heterogeneous Feature Spaces
Yu Zhang, Dit-Yan Yeung

142: Learning Structured Embeddings of Knowledge Bases
Antoine Bordes, Jason Weston, Ronan Collobert, Yoshua Bengio

Classification 2

474: A Nonparametric Bayesian Model of Multi-Level Category Learning
Kevin R. Canini, Thomas L. Griffiths

805: Convex Sparse Coding, Subspace Learning, and Semi-Supervised Extensions
Xinhua Zhang, Yaoliang Yu, Martha White, Ruitong Huang, Dale Schuurmans

33: Learning Instance Specific Distance for Multi-Instance Classification
Hua Wang, Feiping Nie, Heng Huang

Game Playing

520: Reasoning about General Games Described in GDL-II
Stephan Schiffel, Michael Thielscher

754: Bayesian Learning of Generalized Board Positions for Improved Move Prediction in Computer Go
Martin Michalowski, Mark Boddy, Mike Neilsen

866: First-Order Logic with Counting for General Game Playing
Lukasz Kaiser, Lukasz Stafiniak

Robotics 3

225: Complete Information Pursuit Evasion in Polygonal Environments
Kyle Klein, Subhash Suri

573: Automated Abstractions for Patrolling Security Games
Nicola Basilico, Nicola Gatti

18: Generating Diverse Plans Using Quantitative and Qualitative Plan Distance Metrics
Alexandra Coman, Hector Munoz-Avila

Computational Sustainability 6: Natural Resources and Ecosystems

5014: Logistic Methods for Resource Selection Functions and Presence-Only Species Distribution Models
Steven J. Phillips, Jane Elith

5042: Water Conservation through Facilitation on Residential Landscapes
Rhonda Hoenigman, Elizabeth Bradley, Nichole Barger

5046: Incorporating Boosted Regression Trees into Ecological Latent Variable Models
Rebecca A. Hutchinson, Li-Ping Liu, Thomas G. Dietterich

Active Learning

6032: Nectar: Effective End-User Interaction with Machine Learning
Saleema Amershi, James Fogarty, Ashish Kapoor, Desney Tan

4064: AIW: Active Dual Collaborative Filtering with Both Item and Attribute Feedback
Luheng He, Nathan N. Liu, Qiang Yang

50: OASIS: Online Active Semi-Supervised Learning
Andrew B. Goldberg, Xiaojin Zhu, Alex Furger, Jun-Ming Xu

Nectar: RL

6020: A POMDP-Based Optimal Control of P300-Based Brain-Computer Interfaces
Jaeyoung Park, Kee-Eung Kim, Yoon-Kyu Song

6025: Design and Analysis of Value Creation Networks
S. Kameshwaran, Sameep Mehta, Vinayaka Pandit

6030: Recommendation Sets and Choice Queries: There Is No Exploration/Exploitation Tradeoff!
Paolo Viappiani, Craig Boutilier

3:00 - 4:00 pm

Machine Learning 3

913: Optimal Rewards versus Leaf-Evaluation Heuristics in Planning Agents

Jonathan Sorg, Satinder Singh, Richard L. Lewis

6027: Nectar: End-User Feature Labeling via Locally Weighted Logistic Regression
Weng-Keen Wong, Ian Oberst, Shubhomoy Das, Travis Moore, Simone Stumpf, Kevin McIntosh, Margaret Burnett

533: Fast Newton-CG Method for Batch Learning of Conditional Random Fields
Yuta Tsuboi, Yuya Unno, Hisashi Kashima, Naoaki Okazaki

Clustering 1

145: Large Scale Spectral Clustering with Landmark-Based Representation
Xinlei Chen, Deng Cai

481: Localized K-Flats
Yong Wang, Yuan Jiang, Yi Wu, Zhi-Hua Zhou

82: Learning a Kernel for Multi-Task Clustering
Quanquan Gu, Zhenhui Li, Jiawei Han

Reasoning under Uncertainty 1

749: Memory-Efficient Dynamic Programming for Learning Optimal Bayesian Networks
Brandon Malone, Changhe Yuan, Eric A. Hansen

22: Dual Decomposition for Marginal Inference
Justin Domke

101: Efficient Methods for Lifted Inference with Aggregate Factors
Jaesik Choi, Rodrigo de Salvo Braz, Hung H. Bui

Cognitive Modeling

636: The Influence of Emotion Expression on Perceptions of Trustworthiness in Negotiation
Dimitrios Antos, Celso De Melo, Jonathan Gratch, Barbara Grosz

703: Co-Training as a Human Collaboration Policy
Xiaojin Zhu, Bryan R. Gibson, Timothy T. Rogers

834: Human Spatial Relational Reasoning: Processing Demands, Representations, and Cognitive Model
Marco Ragni, Sven Brüssow

Clustering 2

363: Nonnegative Spectral Clustering with Discriminative Regularization
Yi Yang, Heng Tao Shen, Feiping Nie, Rongrong Ji, Xiaofang Zhou

791: Transfer Latent Semantic Learning: Microblog Mining with Less Supervision
Dan Zhang, Yan Liu, Richard D. Lawrence, Vijil Chenthamarakshan

794: Linear Discriminant Analysis: New Formulations and Overfit Analysis
Dijun Luo, Chris Ding, Heng Huang

Integrated Intelligence

3008: Cognitive Synergy between Procedural and Declarative Learning in the Control of Animated and Robotic Agents Using the OpenCogPrime AGI Architecture
B. Goertzel, J. Pitt, J. Wigmore, N. Geisweiller, Z. Cai, R. Lian, D. Huang, G. Yu

3024: Contextually-Based Utility: An Appraisal-Based Approach at Modeling Framing and Decisions
Jonathan Ito, Stacy Marsella

3026: Combining Learned Discrete and Continuous Action Models
Joseph Z. Xu, John E. Laird

Social Media

4052: Understanding User Migration Patterns in Social Media
Shamanth Kumar, Reza Zafarani, Huan Liu

4085: User-Controllable Learning of Location Privacy Policies with Gaussian Mixture Models
Justin Cranshaw, Jonathan Muga, Norman Sadeh

4093: Personalizing Your Web Services with Constructive DL Reasoning Join
Freddy Lécué

4:00 – 4:20 pm
Coffee Break

4:20 - 5:20 pm

Feature Selection

90: Latent Semantic Learning by Efficient Sparse Coding with Hypergraph Regularization
Zhiwu Lu, Yuxin Peng

168: Size Adaptive Selection of Most Informative Features
Si Liu, Hairong Liu, Longin Jan Latecki, Shuicheng Yan, Changsheng Xu, Hanqing Lu

419: A Feasible Nonconvex Relaxation Approach to Feature Selection
Cuixia Gao, Naiyan Wang, Qi Yu, Zhihua Zhang

Multidisciplinary Topics

28: Social Relations Model for Collaborative Filtering
Wu-Jun Li, Dit-Yan Yeung

394: A Functional Analysis of Historical Memory Retrieval Bias in the Word Sense Disambiguation Task
Nate Derbinsky, John E. Laird

6036: Nectar: Two Visual Strategies for Solving the Raven's Progressive Matrices Intelligence Test
Maithilee Kunda, Keith McGreggor, Ashok Goel

Reasoning under Uncertainty 2

780: Utilizing Partial Policies for Identifying Equivalence of Behavioral Models
Yifeng Zeng, Prashant Doshi, Yinghui Pan, Hua Mao, Muthukumaran Chandrasekaran, Jian Luo

297: When to Stop? That Is the Question
Shulamit Reches, Meir Kalech, Rami Stern

619: Fast Parallel and Adaptive Updates for Dual-Decomposition Solvers
Özgür Sümer, Umut A. Acar, Alexander T. Ihler, Ramgopal R. Mettu

Robotics 4

960: Comparing Action-Query Strategies in Semi-Autonomous Agents
Robert Cohn, Edmund Durfee, Satinder Singh

2050: PGAI: Continuous Occupancy Mapping with Integral Kernels
Simon T. O'Callaghan, Fabio T. Ramos

2060: PGAI: Learning Accuracy and Availability of Humans Who Help Mobile Robots
Stephanie Rosenthal, Manuela Veloso, Anind K. Dey

Ranking

4007: AIW: CCRank: Parallel Learning to Rank with Cooperative Coevolution
Shuaiqiang Wang, Byron J. Gao, Ke Wang, Hady W. Lauw

4135: AIW: Maximum Entropy Context Models for Ranking Biographical Answers to Open-Domain Definition Questions
Alejandro Figueroa, John Atkinson

4137: AIW: Transfer Learning for Multiple-Domain Sentiment Analysis — Identifying Domain Dependent/Independent Word Polarity
Yasuhisa Yoshida, Tsutomu Hirao, Tomoharu Iwata, Masaaki Nagata, Yuji Matsumoto

Ontologies

6035: Nectar: New Expressive Languages for Ontological Query Answering
Andrea Cali, Georg Gottlob, Andreas Pieris

867: Finding Answers and Generating Explanations for Complex Biomedical Queries
Esra Erdem, Yelda Erdem, Halit Erdogan, Umut Oztok

4056: AIW: Towards Practical ABox Abduction in Large OWL DL Ontologies
Jianfeng Du, Guilin Qi, Yi-Dong Shen, Jeff Z. Pan

Learning in Social Media

4009: AIW: Propagating Both Trust and Distrust with Target Differentiation for Combating Web Spam
Xianchao Zhang, You Wang, Nan Mou, Wenxin Liang

4041: AIW: Predicting Author Blog Channels with High Value Future Posts for Monitoring
Shanchan Wu, Tamer Elsayed, William Rand, Louiqa Raschid

4057: AIW: Heterogeneous Transfer Learning for Image Classification
Yin Zhu, Yuqiang Chen, Zhongqi Lu, Sinno Jialin Pan, Gui-Rong Xue, Yong Yu, Qiang Yang