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
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. Zakharyaschev

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

1:50 - 2:50 pm
Grand Ballroom, Street Level
AAAI-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. Macskasy, Peter La Monica, 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 Farringdon, 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 Thielischer

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, Debraiprasad 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
Victor Gutiérrez-Basulto, Jean Christoph Jung, Carsten Lutz, Lutz Schröder

735: Two-Dimensional Description Logics for Context-Based Semantic Interoperability
Szymon Klarman, Victor 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, 11-10:30: 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  
*M. 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, Jiujiang 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. Tramper, 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 Mat
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

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. Buelthoff (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 Cottin, 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 Vyteslingum, Sarvapali D. Ramchum, 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 Chentharamakshan

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
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 Mugan, Norman Sadeh*

4093: Personalizing Your Web Services with Constructive DL Reasoning  
*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, Longín 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 McGregor, 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-Deconstruction Solvers  
*Özgür Sümer, Umut A. Acar, Alexander T. Ihler, Ramgopal R. Mettu*

**Robotics 4**
Comparing Action-Query Strategies in Semi-Autonomous Agents
Robert Cohn, Edmund Durfee, Satinder Singh

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

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

Ranking

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

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

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

Ontologies

AIW: Nectar: New Expressive Languages for Ontological Query Answering
Andrea Cali, Georg Gottlob, Andreas Pleris

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

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

Learning in Social Media

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

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

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