

ICML/ILP 2007 Conference Schedule

Tuesday June 19th : ILP Technical Sessions

- 8:00 am - 9:00 am Breakfast Alumni Center Ballroom
- 9:00 am - 9:10 am Welcome and Announcements C&E Hall
- 9:10 am - 10:30 am ILP Session 1 C&E Hall
- 9:10 am - 10:10 am Invited Talk: *Learning with Kernels and Logical Representations*
Paolo Frasconi
- 10:10 am - 10:30 am Poster Overviews
- A Phase Transition-Based Perspective on Multiple Instance Kernels*
Romaric Gaudel, Michele Sebag, Antoine Cornuejols
- Clustering Relational Data based on Randomized Propositionalization*
Grant Anderson, Bernhard Pfahringer
- 10:30 am - 11:00 am Coffee Break Alumni Center Ballroom
- 11:00 am - 12:45 am ILP Session 2 C&E Hall
- 11:00 am - 12:15 pm Oral Presentations
- Mining of Frequent Block Preserving Outerplanar Graph Structured Patterns*
Yosuke Sasaki, Hitoshi Yamazaki, Takayoshi Shoudai, Tomoyuki Uchida
- Using ILP to Construct Features for Information Extraction from Semi-Structured Text*
Ganesh Ramakrishnan, Sachindra Joshi, Sreeram Balakrishnan, Ashwin Srinivasan
- An Inductive Learning System for XML Documents*
Xiaobing Wu
- 12:15 pm - 12:45 pm Poster Overviews
- XML Document Classification with Co-training*
Xiaobing Wu
- Seeing the Forest through the Trees: Learning a Comprehensible Model from a First Order Ensemble*
Anneleen Van Assche, Hendrik Blockeel

Skimmed Classifiers
Rogerio Salvini, Eduardo Aguilar, Ines Dutra

- 12:45 pm - 2:00 pm Lunch Alumni Center Ballroom
- 2:00 pm - 3:40 pm ILP Session 3 (Oral presentations only) C&E Hall
Best student papers:
Foundations of Refinement Operators for Description Logics
and
*A Refinement Operator Based Learning Algorithm
for the ALC Description Logic*
Jens Lehman, Pascal Hitzler
- Learning to Assign Degrees of Belief in Relational Domains*
Frederic Koriche
- Mode Directed Inverse Entailment for Full Clausal Theories*
Oliver Ray, Katsumi Inoue
- 3:40 pm - 4:10 pm Coffee Break Alumni Center Ballroom
- 4:10 pm - 5:45 pm ILP Session 4 C&E Hall
- 4:10 pm - 5:25 pm Oral Presentations
- Empirical Comparison of ``Hard'' and ``Soft'' Label Propagation
for Relational Classification*
Aram Galstyan, Paul Cohen
- Applying Inductive Logic Programming to Process Mining*
Evelina Lamma, Paola Mello, Fabrizio Riguzzi, Sergio Storari
- Learning Declarative Bias*
Will Bridewell, Ljupco Todorovski
- 5:25 pm - 5:45 pm Poster presentations
- Induction of Optimal Semantic Semi-distances for Clausal
Knowledge Bases*
Claudia D'Amato, Nicola Fanizzi, Floriana Esposito
- ILP :- Just Trie It*
Rui Camacho, Nuno Fonseca, Ricardo Rocha, Vitor Santos Costa
- 6:30 pm - 9:30 pm Airlie winery tour Begins at
LaSells Stewert Center

Wednesday, June 20th : ILP Technical Sessions

8:00 am – 9:00 am Breakfast Alumni Center Ballroom

9:00 am – 10:30 am ILP Session 5 C&E Hall

9:00 am – 10:00 am Invited Talk
Beyond Prediction: Directions for Probabilistic and Relational Learning
David Jensen, University of Massachusetts at Amherst

10:00 am – 10:30 am Poster Overviews

Learning Directed Probabilistic Logical Models using Ordering-search
Daan Fierens, Jan Ramon, Maurice Bruynooghe, Hendrik Blockeel

Using Bayesian Networks to Direct Stochastic Search in Inductive Logic Programming
Louis Oliphant, Jude Shavlik

Revising First-Order Logic Theories from Examples through Stochastic Local Search
Aline Paes, Gerson Zaverucha, Vítor Santos Costa

10:30 am – 11:00 am Coffee Break Alumni Center Ballroom

11:00 am – 12:55 pm ILP Session 6 C&E Hall

11:00 am – 12:15 pm Oral Presentations

Structural Sampling for Statistical Software Testing
Nicolas Baskiotis, Michele Sebag

A Relational Hierarchical Model for Decision-Theoretic Assistance
Sriram Natarajan, Prasad Tadepalli, Alan Fern

Relational Macros for Transfer in Reinforcement Learning
Lisa Torrey, Jude Shavlik, Trevor Walker, Richard Maclin

12:15 am – 12:55 pm Poster Overviews

Learning Relational Skills for Inductive Transfer in Relational Reinforcement Learning
Tom Croonenborghs, Kurt Driessens, Maurice Bruynooghe

Building Relational World Models for Reinforcement Learning
Trevor Walker, Lisa Torrey, Jude Shavlik, Richard Maclin

Dynamic Predicate Construction for Learning Relational Concepts
Michael Chiang, David Poole

Combining Clauses with Various Precisions and Recalls to Produce Accurate Probabilistic Estimates

Mark Goadrich, Jude Shavlik

Wednesday, June 20th: ICML Tutorials

8:00 am – 9:00 am	Breakfast	Alumni Center Ballroom
9:00 am – 10:30 am	Morning Sessions	
	<i>T5: Mining Large Time Evolving Data Using Matrix and Tensor Tools</i> Christos Faloutsos, Tamara G. Kolda and Jimeng Sun	Ag Leaders
	<i>T2: Bayesian Methods in Reinforcement Learning</i> Pascal Poupart, Mohammad Ghavamzadeh and Yaakov Engel	Austin Auditorium
	<i>T3: Online Learning of Real-World Problems</i> Koby Crammer	Ag Science
	<i>T4: Semi-Supervised Learning</i> Xiaojin Zhu	Ag Production
10:30 am – 11:00 am	Coffee Break	Alumni Center Ballroom
11:00 am – 1:00 pm	Morning Sessions (cont'd.)	
1:00 pm – 2:00 pm	Lunch	Alumni Center Ballroom
2:00 pm – 3:30 pm	Afternoon Sessions	
	<i>T1: Tensor Methods for Machine Learning, Computer Vision and Computer Graphics</i> M. Alex O. Vasilescu and Amnon Shashua	Ag Leaders
	<i>T6: Relational Data Community Generation</i> Bo Long, Zhongei Zhang and Philip S. Yu	C&E Hall
	<i>T7: Practical Statistical Relational Learning</i> Pedro Domingos	Austin Auditorium
	<i>T8: Group Theoretical Methods in Machine Learning</i> Risi Kondor	Ag Production
3:30 pm – 4:00 pm	Coffee Break	Alumni Center Ballroom
4:00 pm – 6:00 pm	Afternoon Sessions (cont'd.)	
6:00 pm – 9:00 pm	Oregon State Reception	Kelley Engineering Center

Thursday, June 21st: ICML/ILP Technical Sessions

8:00 am – 9:00 am	Breakfast	Alumni Center Ballroom
9:00 am – 9:10 am	Opening	Austin Auditorium
9:10 am – 10:10 am	Invited Talk <i>Thoughts on Kernels</i> Bernhard Schölkopf, Max Planck Institute for Biological Cybernetics	Austin Auditorium
10:10 am – 10:40 am	Coffee Break	Alumni Center Ballroom
10:40 am – 12:50 am	ILP Session 7	Austin Auditorium
10:40 am – 11:30 am	ILP Invited Panel <i>Structured Machine Learning: The Next 10 Years</i> Thomas Dietterich, Pedro Domingos, Lise Getoor, Stephen Muggleton, Bernard Pfahringer	
11:30 am – 12:00	ILP Impromptu talks	
12:00 – 12:50 pm	ILP Business meeting	
10:40 am – 12:45 pm	Sessions 1–4	
Session 1	SEMI-SUPERVISED LEARNING	Ag Production
Session 2	RANKING	Ag Leaders
Session 3	KERNEL METHODS	C&E Hall
Session 4	ONLINE LEARNING AND THEORY	Ag Science
12:45 pm – 2:00 pm	Lunch	Alumni Center Ballroom
2:00 pm – 3:40 pm	Sessions 5–8	
Session 5	RELATIONAL LEARNING AND ILP (JOINT SESSION)	Austin Auditorium
Session 6	COMPUTER GO, RL AND GAME THEORY	Ag Leaders
Session 7	MULTI-TASK AND TRANSFER LEARNING	C&E Hall
Session 8	CLUSTERING I	Ag Production
3:40 pm – 4:10 pm	Coffee Break	Alumni Center Ballroom
4:10 pm – 5:50 pm	Sessions 9–12	
Session 9	CLASSIFICATION I	Ag Leaders
Session 10	NONPARAMETRIC BAYESIAN METHODS	C&E Hall
Session 11	METRIC LEARNING I	Ag Production
Session 12	RELATIONAL LEARNING II	Austin Auditorium
7:00 pm – 10:00 pm	Poster Session I Posters for ICML Sessions 1–18 and ILP	LaSells Stewart Center

Friday, June 22nd: ICML Technical Sessions

8:00 am – 9:00 am	Breakfast	Alumni Center Ballroom
9:00 am – 10:00 am	Invited Talk <i>Bayesian models of human inductive learning</i> Josh Tenenbaum, Massachusetts Institute of Technology	Austin Auditorium
10:00 am – 10:30 am	Coffee Break	Alumni Center Ballroom
10:30 am – 12:35 pm	Sessions 13–16	
Session 13	REINFORCEMENT LEARNING I	Austin Auditorium
Session 14	GAUSSIAN PROCESSES	Ag Leaders
Session 15	INFERENCE, PROBABILISTIC MODELS, AND RANDOM FIELDS	C&E Hall
Session 16	LARGE-SCALE OPTIMIZATION	Ag Production
12:35 pm – 2:00 pm	Lunch at Alumni Center Ballroom	
2:00 pm – 3:40 pm	Sessions 17–20	
Session 17	REINFORCEMENT LEARNING II	Austin Auditorium
Session 18	MULTIPLE-INSTANCE AND SEQUENTIAL LEARNING	Ag Production
Session 19	NETWORKS AND GRAPHS	C&E Hall
Session 20	CLASSIFICATION II	Ag Leaders
3:40 pm – 4:10 pm	Coffee Break	Alumni Center Ballroom
4:10 pm – 5:50 pm	Sessions 21–24	
Session 21	VISION, GRAPHICS AND ROBOTICS	C&E Hall
Session 22	DISCRIMINANT ANALYSIS	Ag Leaders
Session 23	FEATURE SELECTION	Ag Production
Session 24	MANIFOLDS AND DIMENSIONALITY REDUCTION I	Austin Auditorium
7:00 pm – 10:30 pm	Conference Banquet	Alumni Center Ballroom

Saturday, June 23rd: ICML Technical Sessions

8:00 am – 9:00 am	Breakfast	Alumni Center Ballroom
9:00 am – 11:05 am	Sessions 25–28	
Session 25	CLASSIFICATION III	Ag Leaders
Session 26	STRUCTURED PREDICTION	Austin Auditorium
Session 27	CLUSTERING II	Ag Production
Session 28	LANGUAGE, TOPIC MODELLING AND HIERARCHIES	C&E Hall
11:05 am – 11:35 am	Coffee Break	Alumni Center Ballroom
11:35 am – 12:50 pm	Sessions 29–32	
Session 29	METRIC LEARNING II	C&E Hall
Session 30	BIOINFORMATICS	Ag Production
Session 31	CAUSALITY, KERNELS AND DEEP NETWORKS	Austin Auditorium
Session 32	SPARSE MODELS AND SIGNAL PROCESSING	Ag Leaders
12:50 pm – 2:20 pm	Lunch	Alumni Center Ballroom
2:20 pm – 4:00 pm	Sessions 33–36	
Session 33	MANIFOLDS AND DIMENSIONALITY REDUCTION II	C&E Hall
Session 34	SPARSE METHODS AND PCA	Ag Production
Session 35	BOOSTING	Ag Leaders
Session 36	REINFORCEMENT LEARNING III	Austin Auditorium
4:00 pm – 4:30 pm	Coffee Break	Alumni Center Ballroom
4:30 pm – 5:30 pm	Invited Talk <i>Graphical Models for HIV Vaccine Design</i> David Heckerman, Microsoft Research	Austin Auditorium
5:45 pm – 6:45 pm	Business Meeting	Austin Auditorium
7:00 pm – 10:00 pm	Poster Session II Posters for ICML Sessions 19–36	LaSells Stewart Center

Sunday, June 24th: ICML Workshops

8:00 am – 9:00 am	Breakfast	Alumni Center Ballroom
9:00 am – 10:30 am	Workshops Sessions	
	<i>Challenges and Applications of Grammar Induction (CAGI '07)</i>	C&E Hall
	<i>Induction of Process Models</i>	Ag Production
	<i>Constrained Optimization and Learning with Structured Outputs</i>	Austin Auditorium
10:30 am – 11:00 am	Coffee Break	Alumni Center Ballroom
11:00 am – 12:30 pm	Workshops Sessions (cont'd.)	
12:30 pm – 2:00 pm	Lunch	Alumni Center Ballroom
2:00 pm – 3:45 pm	Workshops Sessions (cont'd.)	
3:45 pm – 4:15 pm	Coffee Break	Alumni Center Ballroom
4:15 pm – 6:00 pm	Workshops Sessions (cont'd.)	
6:00 pm	Conference Closes	

ICML Technical Talks by Session

Session 1: SEMI-SUPERVISED LEARNING

Two-view Feature Generation Model for Semi-supervised Learning

The Rendezvous Algorithm: Multiclass Semi-Supervised Learning with Markov Random Walks

Kernel Selection for Semi-Supervised Kernel Machines

Neighbor Search with Global Geometry: A Minimax Message Passing Algorithm

Simple, Robust, Scalable Semi-supervised Learning via Expectation Regularization

Session 2: RANKING

Learning Random Walks to Rank Nodes in Graphs

Focussed Crawling with Scalable Ordinal Regression Solvers

Learning to Rank: From Pairwise Approach to Listwise Approach

Magnitude-Preserving Ranking Algorithms

On Learning Linear Ranking Functions for Beam Search

Session 3: KERNEL METHODS

Learning Nonparametric Kernel Matrices from Pairwise Constraints

More Efficiency in Multiple Kernel Learning

A Kernel Path Algorithm for Support Vector Machines

Discriminant Kernel and Regularization Parameter Learning via Semidefinite Programming

Multiclass Multiple Kernel Learning

Session 4: ONLINE LEARNING AND THEORY

Winnowing Subspaces

Sample Compression Bounds for Decision Trees

Online Discovery of Similarity Mappings

Approximate Maximum Margin Algorithms with Rules Controlled by the Number of Mistakes

A Bound on the Label Complexity of Agnostic Active Learning

Session 5: RELATIONAL LEARNING AND ILP (JOINT SESSION)

ILP Paper: *Bias/Variance Analysis for Relational Domains*

ILP Paper: *Learning Probabilistic Logic Models from Probabilistic Examples*

Learning from Interpretations: A Rooted Kernel for Ordered Hypergraphs

Statistical Predicate Invention

Session 6: COMPUTER GO, RL AND GAME THEORY

Combining Online and Offline Knowledge in UCT

Efficiently Computing Minimax Expected-Size Confidence Regions

Learning to Solve Game Trees

On the Role of Tracking in Stationary Environments

Session 7: MULTI-TASK AND TRANSFER LEARNING

Robust Multi-Task Learning with t -Processes

The Matrix Stick-Breaking Process for Flexible Multi-Task Learning

Self-taught Learning: Transfer Learning from Unlabeled Data

Learning a Meta-Level Prior for Feature Relevance from Multiple Related Tasks

Session 8: CLUSTERING I

Intractability and Clustering with Constraints

Cluster Analysis of Heterogeneous Rank Data

Best of Both: A Hybridized Centroid-Medoid Clustering Heuristic

Quantum Clustering Algorithms

Session 9: CLASSIFICATION I

Discriminative Learning for Differing Training and Test Distributions
Asymptotic Bayesian Generalization Error When Training and Test Distributions Are Different
Experimental Perspectives on Learning from Imbalanced Data
On the Value of Pairwise Constraints in Classification and Consistency

Session 10: NONPARAMETRIC BAYESIAN METHODS

Infinite Mixture of Trees
A Permutation-augmented Sampler for DP Mixture Models
Multi-Task Learning for Sequential Data via iHMMs and the Nested Dirichlet Process
Local Dependent Components

Session 11: METRIC LEARNING I

Learning Distance Function by Coding Similarity
Information-Theoretic Metric Learning
A Transductive Framework of Distance Metric Learning by Spectral Dimensionality Reduction
Dirichlet Aggregation: Unsupervised Learning towards an Optimal Metric for Proportional Data

Session 12: RELATIONAL LEARNING II

Parameter Learning for Relational Bayesian Networks
Relational Clustering by Symmetric Convex Coding
Bottom-Up Learning of Markov Logic Network Structure
Fast and Effective Kernels for Relational Learning from Texts

Session 13: REINFORCEMENT LEARNING I

Bayesian Actor-Critic Algorithms
Automatic Shaping and Decomposition of Reward Functions
Constructing Basis Functions from Directed Graphs for Value Function Approximation
Learning State-Action Basis Functions for Hierarchical MDPs
Analyzing Feature Generation for Value-Function Approximation

Session 14: GAUSSIAN PROCESSES

Most Likely Heteroscedastic Gaussian Process Regression
The Hierarchical Gaussian Process Latent Variable Model
Discriminative Gaussian Process Latent Variable Models for Classification
Multifactor Gaussian Process Models for Style-Content Separation
Nonmyopic Active Learning of Gaussian Processes: An Exploration--Exploitation Approach

Session 15: INFERENCE, PROBABILISTIC MODELS, AND RANDOM FIELDS

Efficient Inference with Cardinality-based Clique Potentials
What Is Decreased by the Max-sum Arc Consistency Algorithm?
Robust Mixtures in the Presence of Measurement Errors
Dynamic Hierarchical Markov Random Fields and their Application to Web Data Extraction
Restricted Boltzmann Machines for Collaborative Filtering

Session 16: LARGE-SCALE OPTIMIZATION

Scalable Training of L1-regularized Log-linear Models
Support Cluster Machine
Trust Region Newton Methods for Large-Scale Logistic Regression
Large-scale RLSC Learning Without Agony
Pegasos: Primal Estimated sub-GrAdient SOLver for SVM

Session 17: REINFORCEMENT LEARNING II

A Novel Orthogonal NMF-Based Belief Compression for POMDPs
Percentile Optimization in Uncertain MDP with Application to Efficient Exploration
Multi-armed Bandit Problems with Dependent Arms
Reinforcement Learning by Reward-weighted Regression for Operational Space Control

Session 18: MULTIPLE-INSTANCE AND SEQUENTIAL LEARNING

Multiple Instance Learning for Sparse Positive Bags
On the Relation Between Multi-Instance Learning and Semi-Supervised Learning
CarpeDiem: an Algorithm for the Fast Evaluation of SSL Classifiers
Modeling Changing Dependency Structure in Multivariate Time Series

Session 19: NETWORKS AND GRAPHS

Recovering Temporally Rewiring Networks: A model-based approach
Scalable Modeling of Real Graphs using Kronecker Multiplication
Graph Clustering With Network Structure Indices
Entire Regularization Paths for Graph Data

Session 20: CLASSIFICATION II

Uncovering Shared Structures in Multiclass Classification
Multiclass Core Vector Machine
Simpler Core Vector Machines with Enclosing Balls
Solving MultiClass Support Vector Machines with LaRank

Session 21: VISION, GRAPHICS AND ROBOTICS

Learning to Compress Images and Video
Linear and Nonlinear Generative Probabilistic Class Models for Shape Contours
Adaptive Mesh Compression in 3D Computer Graphics using Multiscale Manifold Learning
Map Building without Localization by Dimensionality Reduction Techniques

Session 22: DISCRIMINANT ANALYSIS

Discriminant Analysis in Correlation Similarity Measure Space
Local Similarity Discriminant Analysis
Least Squares Linear Discriminant Analysis
A Fast Linear Separability Test by Projection of Positive Points on Subspaces

Session 23: FEATURE SELECTION

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Feature Selection in Kernel Space
Minimum Reference Set Based Feature Selection for Small Sample Classifications
Supervised Feature Selection via Dependence Estimation
Spectral Feature Selection for Supervised and Unsupervised Learning

Session 24: MANIFOLDS AND DIMENSIONALITY REDUCTION I

Dimensionality Reduction and Generalization
Regression on Manifolds using Kernel Dimension Reduction
Transductive Regression Piloted by Inter-Manifold Relations
Local Learning Projections

Session 25: CLASSIFICATION III

Sparse Probabilistic Classifiers

Direct Convex Relaxations of Sparse SVM

A Recursive Method for Discriminative Mixture Learning

Quadratically Gated Mixture of Experts for Incomplete Data Classification

Classifying Matrices with a Spectral Regularization

Session 26: STRUCTURED PREDICTION

Exponentiated Gradient Algorithms for Log-Linear Structured Prediction

Comparisons of Sequence Labeling Algorithms and Extensions

Piecewise Pseudolikelihood for Efficient Training of Conditional Random Fields

Incremental Bayesian Networks for Structure Prediction

Transductive Support Vector Machines for Structured Variables

Session 27: CLUSTERING II

A Dependence Maximization View of Clustering

Revisiting Probabilistic Models for Clustering with Constraints

Supervised Clustering of Streaming Data for Email Batch Detection

Maximum Margin Clustering Made Practical

Spectral Clustering with Multiple Views

Session 28: LANGUAGE, TOPIC MODELLING AND HIERARCHIES

Unsupervised Prediction of Citation Influences

Three New Graphical Models for Statistical Language Modelling

Mixtures of Hierarchical Topics with Pachinko Allocation

Unsupervised Estimation for Noisy-Channel Models

Hierarchical Maximum Entropy Density Estimation

Session 29: METRIC LEARNING II

Learning to Combine Distances for Complex Representations

Optimal Dimensionality of Metric Space for Classification

Learning for Efficient Retrieval of Structured Data with Noisy Queries

Session 30: BIOINFORMATICS

Structural Alignment based Kernels for Protein Structure Classification

An Integrated Approach to Feature Invention and Model Construction for Drug Activity Prediction

Hybrid Huberized Support Vector Machines for Microarray Classification

Session 31: CAUSALITY, KERNELS AND DEEP NETWORKS

Kernel-based Causal Learning Algorithm

Kernelizing PLS, Degrees of Freedom, and Efficient Model Selection

An Empirical Evaluation of Deep Architectures on Problems with Many Factors of Variation

Session 32: SPARSE MODELS AND SIGNAL PROCESSING

Beamforming using the Relevance Vector Machine

Nonlinear Independent Component Analysis with Minimal Nonlinear Distortion

On One Method of Non-Diagonal Regularization in Sparse Bayesian Learning

Session 33: MANIFOLDS AND DIMENSIONALITY REDUCTION II

Non-Isometric Manifold Learning: Analysis and an Algorithm

Manifold-adaptive dimension estimation

Robust Non-linear Dimensionality Reduction using Successive 1-Dimensional Laplacian Eigenmaps

Adaptive Dimension Reduction Using Discriminant Analysis and K-means Clustering

Session 34: SPARSE METHODS AND PCA

Bayesian Compressive Sensing and Projection Optimization

Online Kernel PCA with Entropic Matrix Updates

Sparse Eigen Methods by D.C. Programming

Full Regularization Path for Sparse Principal Component Analysis

Session 35: BOOSTING

Boosting for Transfer Learning

Gradient Boosting for Kernelized Output Spaces

Asymmetric Boosting

On Learning with Dissimilarity Functions

Session 36: REINFORCEMENT LEARNING III

Tracking Value Function Dynamics to Improve Reinforcement Learning with Piecewise Linear Function Approximation

Cross-Domain Transfer for Reinforcement Learning

Multi-Task Reinforcement Learning: A Hierarchical Bayesian Approach

Conditional Random Fields for Multi-agent Reinforcement Learning