



International Conference on Artificial Intelligence and Statistics

2013

Program

Sixteenth International Conference on Artificial Intelligence and Statistics



Monday, April 29

0730	Breakfast – PALM TERRACE
0815	Organizers Welcome – RATTLERS
0830	The Jeopardy! Challenge and Beyond **Invited Talk** <i>Erik Brown (IBM)</i>
0930	Session I: Learning Theory Chair: Karthik Sridharan (Univ. of Pennsylvania) Permutation estimation and minimax rates of identifiability ** Notable Paper** <i>Olivier Collier, Arnak Dalalyan (IMAGINE-ENPC / CREST-ENSAE)</i> Further Optimal Regret Bounds for Thompson Sampling <i>Shipra Agrawal, Navin Goyal, MSR India</i>
1030	Coffee Break – RATTLERS FOYER
1100	Session II: Bayesian Inference I Chair: Richard Hahn (Univ. of Chicago) Diagonal Orthant Multinomial Probit Models ** Notable Paper ** <i>James Johndrow (Duke); Kristian Lum (Virginia Tech); David Dunson (Duke)</i> ODE parameter inference using adaptive gradient matching with Gaussian processes <i>Frank Dondelinger, Biomathematics and Statistics Scotland; Dirk Husmeier, University of Glasgow; Simon Rogers, University of Glasgow; Maurizio Filippone, University of Glasgow</i>
	Reconstructing ecological networks with hierarchical Bayesian regression and Mondrian processes <i>Andrej Aderhold, University of St Andrews; Dirk Husmeier, University of Glasgow; V. Anne Smith, University of St Andrews</i>
1230	Afternoon Break – On your own.
1700	Session III: Graphical Models Chair: David Sontag (NYU) Distributed Learning of Gaussian Graphical Models via Marginal Likelihoods ** Notable Paper ** <i>Zhaoshi Meng Univ. of Michigan; Dennis Wei Univ. of Michigan; Ami Wiesel, Hebrew University; Alfred Hero III, Univ. of Michigan</i>

Computing the M Most Probable Modes of a Graphical Model
Chao Chen, Rutgers University; Vladimir Kolmogorov, IST Austria; Yan Zhu, Rutgers University; Dimitris Metaxas, Rutgers University; Christoph Lampert, IST Austria

Estimating the Partition Function of Graphical Models Using Langevin Importance Sampling
Jianzhu Ma, TTIC; Jian Peng, TTIC; Sheng Wang, TTIC; Jinbo Xu, TTIC

1830 Dinner Break – On your own.

2000 **Poster Session I – BOUCHON**
Hors d'oeuvres and cash bar – PALM PATIO

Tuesday, April 30

0730 Breakfast: - PALM TERRACE
0830 Oral Session: RATTLERS

0830 Geometric and Topological Inference ** **Invited Talk****
Larry Wasserman (CMU)

0930 **Session IV: Probability**
Chair: Stephan Clemenccon (Telecom ParisTech)

A unifying representation for a class of dependent random measures ****Notable Paper****
Nicholas Foti (Dartmouth); Sinead Williamson (CMU); Daniel Rockmore (Dartmouth); Joseph Futoma (Dartmouth)

Distribution-Free Distribution Regression
Barnabas Poczos, Carnegie Mellon University; Aarti Singh, Carnegie Mellon University; Alessandro Rinaldo, Carnegie Mellon University; Larry Wasserman, IBM

1030 Coffee Break – RATTLERS FOYER

1100 **Session V: Sparsity**
Chair: Daryl Pregibon (Google)

Sparse Principal Component Analysis for High Dimensional Multivariate Time Series ****Notable Paper****
Fang Han (JHU); Zhaoran Wang (Princeton); Han Liu (Princeton)

Texture Modeling with Convolutional Spike-and-Slab RBMs and Deep Extensions
Heng Luo, Université de Montréal; Pierre Luc Carrier, Université de Montréal; Aaron Courville, Université de Montréal; Yoshua Bengio, Université de Montréal

Detecting Activations over Graphs using Spanning Tree Wavelet Bases
James Sharpnack, Carnegie Mellon University; Aarti Singh, Carnegie Mellon University; Akshay Krishnamurthy, CMU

1230 Afternoon Break – On you own.

1600	Approximative Bayesian Computation (ABC): Computational Advances versus Inferential Uncertainty ** Invited Talk** <i>Christian Robert (Paris)</i>
1700	Session VI: Bayesian Inference II Chair: Emily Fox (Univ. of Washington) Bayesian learning of joint distributions of objects **Notable Paper** <i>Anjishnu Banerjee (Duke); Jared Murray (Duke); David Dunson (Duke)</i>
	Efficient Variational Inference for Gaussian Process Regression Networks <i>Trung Nguyen, ANU and NICTA; Edwin Bonilla*, NICTA and ANU</i>
	Structural Expectation Propagation (SEP): Bayesian structure learning for Networks with latent variables <i>Nevena Lazic, Microsoft Research; Christopher Bishop, Microsoft Research ; John Winn, Microsoft Research</i>
1830	Dinner – On your own.
2000	Poster Session II – BOUCHON Hors d'oeuvres and cash bar – PALM PATIO
 Wednesday, May 1	
0730	Breakfast – PALM TERRACE
0830	Oral Session: RATTLERS
0830	Session VII: Efficient Learning and Inference Chair: Geoff Gordon (CMU) Faster Training of Structural SVMs with Diverse M-Best Cutting-Planes <i>Abner Guzman-Rivera, University of Illinois; Pushmeet Kohli, Microsoft Research Cambridge; Dhruv Batra, Virginia Tech</i>
	Dual Decomposition for Joint Discrete-Continuous Optimization <i>Christopher Zach, Microsoft Research</i>
	Nystrom Approximation for Large-Scale Determinantal Processes <i>Raja Hafiz Affandi, University of Pennsylvania; Emily Fox, University of Washington; Ben Taskar, University of Pennsylvania; Alex Kulesza University of Michigan</i>
	Supervised Sequential Classification Under Budget Constraints <i>Kirill Trapeznikov, Boston University; Venkatesh Saligrama, Boston University</i>
1030	Coffee Break – RATTLERS FOYER
1100	Session VIII: Learning, Networks and Causality Chair: Guillaume Bouchard (Xerox) Statistical Tests for Contagion in Observational Social Network Studies <i>Greg Ver Steeg, Information Sciences Institute; Aram Galstyan, Information Sciences Institute, USC</i>

Meta-Transportability of Causal Effects: A Formal Approach
Elias Bareinboim, UCLA; Judea Pearl, UCLA

Localization and Adaptation in Online Learning
*Alexander (Sasha) Rakhlin, University of Pennsylvania; Ohad Shamir, Microsoft Research;
Karthik Sridharan, University of Pennsylvania*

Uncover Topic-Sensitive Information Diffusion Networks
*Nan Du, Georgia Institute of Technology; Le Song, Georgia Institute of Technology; Hyenkyun Woo,
Georgia Institute of Technology; Hongyuan Zha, Georgia Institute of Technology*

1300

AISTATS END

Poster Session I

Monday, April 29, 2013

Location: Bouchon

Scoring anomalies: a M-estimation formulation

Stéphan Cléménçon, Telecom ParisTech; Jérémie Jakubowicz, Telecom Sud Management

Evidence Estimation for Bayesian Partially Observed MRFs

Yutian Chen, UC Irvine; Max Welling, "University of California, Irvine

High-dimensional Inference via Lipschitz Sparsity-Yielding Regularizers

Zheng Pan, Tsinghua Univ.; Changshui Zhang, Tsinghua Univ.

Learning to Top-K Search using Pairwise Comparisons

Brian Eriksson, Technicolor

Stochastic blockmodeling of relational event dynamics

Christopher DuBois, UC Irvine; Carter Butts, UC Irvine; Padhraic Smyth, University of California Irvine

Unsupervised Link Selection in Networks

Quanquan Gu, CS, UIUC; Charu Aggarwal, IBM Research; Jiawei Han, UIUC

Beyond Sentiment: The Manifold of Human Emotions

Seungyeon Kim, Georgia Institute of Technology; Fuxin Li, Georgia Institute of Technology; Guy Lebanon, Georgia Institute of Technology; Irfan Essa, Georgia Institute of Technology

Greedy Bilateral Sketch, Completion & Smoothing

Tianyi Zhou, University of Technology Sydney; Dacheng Tao, University of Technology, Sydney

Further Optimal Regret Bounds for Thompson Sampling

Shipra Agrawal, MSR India; Navin Goyal, MSR India

Faster Training of Structural SVMs with Diverse M-Best Cutting-Planes

Abner Guzman-Rivera, University of Illinois; Pushmeet Kohli, Microsoft Research Cambridge; Dhruv Batra, Virginia Tech

Structural Expectation Propagation (SEP): Bayesian structure learning for networks

Nevena Lazic, Christopher Bishop, John Winn, Microsoft Research

DYNA-CARE: Dynamic Cardiac Arrest Risk Estimation

Joyce Ho, University of Texas at Austin; Yubin Park, University of Texas at Austin; Carlos Carvalho, University of Texas at Austin; Joydeep Ghosh, University of Texas at Austin

Competing with an Infinite Set of Models in Reinforcement Learning

Phuong Nguyen, Australian National University; Odalric-Ambrym Maillard, Montanuniversität Leoben; Daniil Ryabko, INRIA, Lille; Ronald Ortner, Montanuniversitaet Leoben

Central Limit Theorems for Conditional Markov Chains

Mathieu Sinn, IBM Research; Bei Chen, IBM Research – Ireland

Efficient Variational Inference for Gaussian Process Regression Networks

Trung Nguyen, ANU and NICTA; Edwin Bonilla, NICTA and ANU

Active Learning for Interactive Visualization

Tomoharu Iwata, University of Cambridge; Neil Houlsby, University of Cambridge; Zoubin Ghahramani, University of Cambridge

ODE parameter inference using adaptive gradient matching with Gaussian processes

Frank Dondelinger, Biomathematics and Statistics Scotland; Dirk Husmeier, University of Glasgow; Simon Rogers, University of Glasgow; Maurizio Filippone, University of Glasgow

Exact Learning of Bounded Tree-width Bayesian Networks

Janne Korhonen, University of Helsinki; Pekka Parviainen

Completeness Results for Lifted Variable Elimination

Nima Taghipour, KU Leuven; Daan Fierens, KU LEUVEN; Guy Van den Broeck, UCLA; Jesse Davis, KU LEUVEN; Hendrik Blockeel, KU LEUVEN

Fast Near-GRID Gaussian Process Regression

Yuancheng Luo, University of Maryland; Ramani Duraiswami, University of Maryland

Convex Collective Matrix Factorization

Guillaume Bouchard, "Xerox Research Centre, Europe"; Dawei Yin, Lehigh University; Shengbo Guo, Samsung Research America

Meta-Transportability of Causal Effects: A Formal Approach

Elias Bareinboim, UCLA; Judea Pearl, UCLA

Why Steiner-tree type algorithms work for community detection

Mung Chiang, Princeton University; Henry Lam, Boston University; Zhenming Liu, Princeton University; Harold Poor, Princeton University

Clustering Oligarchies

Margareta Ackerman, Caltech; Shai Ben David, ; David Loker, University of Waterloo; Sivan Sabato, Microsoft Research

Structure Learning of Mixed Graphical Models

Jason Lee, Computational Math & Engineering; Trevor Hastie, Stanford University

A Simple Criterion for Controlling Selection Bias

Eunice Yuh-Jie Chen, UCLA; Judea Pearl, UCLA

Clustered Support Vector Machine

Quanquan Gu, CS, UIUC; Jiawei Han, UIUC

A Competitive Test for Uniformity of Monotone Distributions

Jayadev Acharya, University of California, San Diego; Ashkan Jafarpour, Univ. of California, San Diego; Alon Orlitsky, University of California, San Diego; Ananda Suresh, University of California, San Diego

Deep Gaussian Processes

Andreas Damianou, University of Sheffield; Neil Lawrence, University of Sheffield

Permutation estimation and minimax rates of identifiability

Olivier Collier, IMAGINE-ENPC / CREST-ENSAE; Arnak Dalalyan, Ecole des Ponts ParisTech

Bayesian Structure Learning for Functional Neuroimaging

Oluwasanmi Koyejo, UT Austin; Mijung Park, UT Austin; Russell Poldrack, UT Austin; Joydeep Ghosh, UT Austin; Jonathan Pillow, The University of Texas at Austin

Dual Decomposition for Joint Discrete-Continuous Optimization

Christopher Zach, Microsoft Research

Distribution-Free Distribution Regression

Barnabas Poczos, Carnegie Mellon University; Aarti Singh, Carnegie Mellon University; Alessandro Rinaldo, Carnegie Mellon University; Larry Wasserman, Carnegie Mellon University

A Last-Step Regression Algorithm for Non-Stationary Online Learning

Edward Moroshko, Technion; Koby Crammer, Technion University

Efficiently Sampling Probabilistic Programs via Program Analysis

Arun Chaganty, Aditya Nori, Sriram Rajamani, Microsoft Research India

Poster Session II

Tuesday, April 30, 2013

Location: Bouchon

On the Asymptotic Optimality of Maximum Margin Bayesian Networks

Sebastian Tschiatschek, TU Graz; Franz Pernkopf, TU Graz

Ultrahigh Dimensional Feature Screening via RKHS Embeddings

Krishnakumar Balasubramanian, Gatech; Bharath Sriperumbudur, Cambridge University ; Guy Lebanon, Georgia Institute of Technology

Data-driven covariate selection for nonparametric estimation of causal effects

Doris Entner, Patrik Hoyer, University of Helsinki; Peter Spirtes, CMU

Mixed LICORS: A Nonparametric Algorithm for Predictive State Reconstruction

Georg Goerg, Carnegie Mellon University; Cosma Shalizi, Carnegie Mellon University

Thompson Sampling in Switching Environments with Bayesian Online Change Detection

Joseph Mellor, University of Manchester; Jonathan Shapiro, University of Manchester

Collapsed Variational Bayesian Inference for Hidden Markov Models

Pengyu Wang, University of Oxford; Phil Blunsom, University of Oxford

Supervised Sequential Classification Under Budget Constraints

Kirill Trapeznikov, Boston University; Venkatesh Saligrama, Boston University

Computing the M Most Probable Modes of a Graphical Model

Chao Chen, Rutgers University; Vladimir Kolmogorov, IST Austria; Yan Zhu, Rutgers University; Dimitris Metaxas, Rutgers University; Christoph Lampert, IST Austria

Estimating the Partition Function of Graphical Models Using Langevin Importance Sampling

Jianzhu Ma, TTIC; Jian Peng, TTIC; Sheng Wang, TTIC; Jinbo Xu, TTIC

Random Projections for Support Vector Machines

Saurabh Paul, Rensselaer Polytechnic Inst; Christos Boutsidis, IBM; Malik Magdon-Ismail, ; Petros Drineas, RPI

A unifying representation for a class of dependent random measures

Nicholas Foti, Dartmouth College; Sinead Williamson, Carnegie Mellon University; Daniel Rockmore, Dartmouth College; Joseph Futoma, Dartmouth College

Dynamic Copula Networks for Modeling Real-valued Time Series

Elad Eban, Hebrew University; Gideon Rothschild, Hebrew University; Adi Mizrahi, Hebrew University; Israel Nelken, Hebrew University; Gal Elidan, Hebrew University

A Parallel, Block Greedy Method for Sparse Inverse Covariance Estimation for Ultra-high Dimensions
Prabhanjan Kambadur, IBM TJ Watson Research Center; Aurelie Lozano,

A recursive estimate for the predictive likelihood in a topic model
James Scott, Jason Baldridge, University of Texas at Austin

Nystrom Approximation for Large-Scale Determinantal Processes
Raja Hafiz Affandi, University of Pennsylvania; Emily Fox, Ben Taskar, Alex Kulesza, University of Pennsylvania

A simple sketching algorithm for entropy estimation over streaming data
Ioana Cosma, University of Ottawa; Peter Clifford, University of Oxford

Detecting Activations over Graphs using Spanning Tree Wavelet Bases
James Sharpnack, Carnegie Mellon University; Aarti Singh, Carnegie Mellon University; Akshay Krishnamurthy, CMU

Learning Social Infectivity in Sparse Low-rank Networks Using Multi-dimensional Hawkes Processes
Ke Zhou, Georgia Institute of Technology; Le Song, Georgia Institute of Technology; Hongyuan Zha, Georgia Institute of Technology

Changepoint Detection over Graphs with the Spectral Scan Statistic
James Sharpnack, Carnegie Mellon University; Aarti Singh, Carnegie Mellon University; Alessandro Rinaldo, Carnegie Mellon University

Statistical Tests for Contagion in Observational Social Network Studies
Greg Ver Steeg, Information Sciences Institute; Aram Galstyan, Information Sciences Institute, USC

Diagonal Orthant Multinomial Probit Models
James Johndrow, Duke University; Kristian Lum, Virginia Tech; David Dunson, Duke University

Reconstructing ecological networks with hierarchical Bayesian regression and Mondrian processes
Andrej Aderhold, University of St Andrews; Dirk Husmeier, University of Glasgow; V. Anne Smith, University of St Andrews

Bayesian learning of joint distributions of objects
Anjishnu Banerjee, Duke University; Jared Murray, Duke University; David Dunson, Duke University

Consensus Ranking with Signed Permutations
Raman Arora, TTIC; Marina Meila, University of Washington

Sparse Principal Component Analysis for High Dimensional Multivariate Time Series
Zhaoran Wang, Princeton University; Fang Han, Johns Hopkins University; Han Liu, Princeton Univ.

Texture Modeling with Convolutional Spike-and-Slab RBMs and Deep Extensions
*Heng Luo, Université de Montréal; Pierre Luc Carrier, Université de Montréal; Aaron Courville, Université de Montréal;
Yoshua Bengio, Université de Montréal*

Block Regularized Lasso for Multivariate Multi-Response Linear Regression

Weiguang Wang, Syracuse University; Yingbin Liang, Syracuse University; Eric Xing, Carnegie Mellon University

Predictive Correlation Screening: Application to Two-stage Predictor Design in High Dimension

Hamed Firouzi, University of Michigan; Alfred Hero III, University of Michigan

Distributed Learning of Gaussian Graphical Models via Marginal Likelihoods

Zhaoshi Meng, University of Michigan; Dennis Wei, University of Michigan; Ami Wiesel, The Hebrew University of Jerusalem;

Alfred Hero III, University of Michigan

Dynamic Scaled Sampling for Deterministic Constraints

Lei Li, UC Berkeley; Bharath Ramsundar, Stanford; Stuart Russell, UC Berkeley

Localization and Adaptation in Online Learning

Alexander (Sasha) Rakhlin, University of Pennsylvania; Ohad Shamir, Karthik Sridharan, University of Pennsylvania

Recursive Karcher Expectation Estimators And Geometric Law of Large Numbers

Hesamoddin Salehian, University of Florida; Guang Cheng, ; Jeffrey Ho, UFL; Baba Vemuri, University of Florida

Distributed and Adaptive Darting Monte Carlo through Regenerations

Sungjin Ahn, UCI; Yutian Chen, UC Irvine; Max Welling, University of Amsterdam

Uncover Topic-Sensitive Information Diffusion Networks

Nan Du, GATECH; Le Song, Hyenkyun Woo, Hongyuan Zha, Georgia Institute of Technology

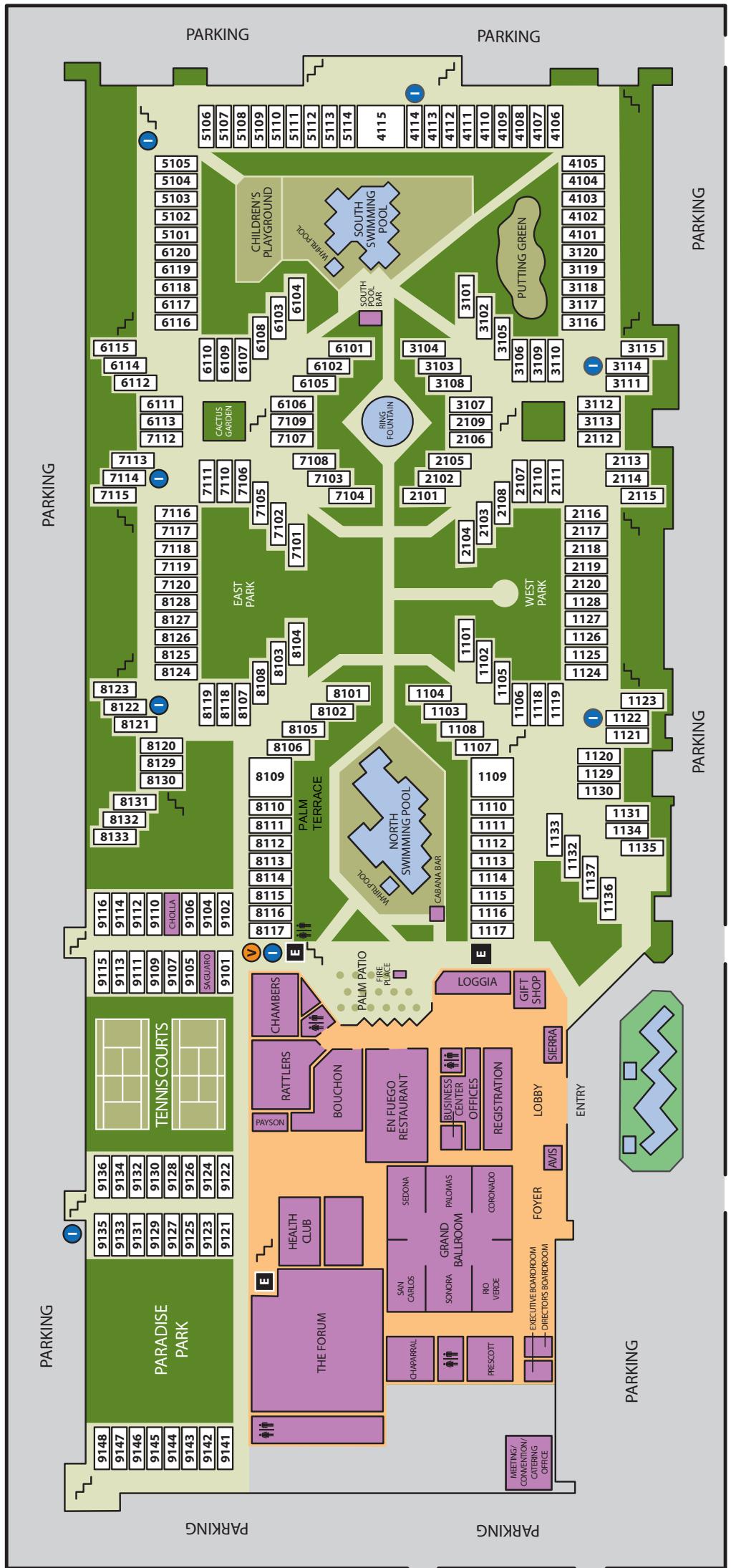
Learning Markov Networks With Arithmetic Circuits

Daniel Lowd, University of Oregon; Amirmohammad Rooshenas, University of Oregon

Bethe Bounds and Approximating the Global Optimum

Adrian Weller, Columbia University; Tony Jebara, Columbia University

FIRST FLOOR



SCOTTSDALE ROAD

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TO OLD TOWN SCOTTSDALE

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- PUBLIC FACILITIES
- EXTERIOR WALKWAYS
- INTERIOR WALKWAYS
- POOLS & FOUNTAINS
- WALKWAYS
- ELEVATORS
- STAIRS
- PUBLIC RESTROOMS
- ICE MACHINES
- VENDING MACHINES
- WHEELCHAIR ACCESS