Alexander Ihler | Curriculum Vitae

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Education

Massachusetts Institute of Technology   **Cambridge, MA**
Ph.D., Dept. of Electrical Engineering & Computer Science   *June 2005*
Thesis: Inference in Sensor Networks: Graphical Models and Particle Methods

Massachusetts Institute of Technology   **Cambridge, MA**
S.M., Dept. of Electrical Engineering & Computer Science   *June 2000*
Thesis: Maximally Informative Subspaces: Nonparametric Estimation for Dynamical Systems

California Institute of Technology   **Pasadena, CA**
B.S. with Honors, Electrical Engineering & Mathematics   *June 1998*

Research & Employment

University of California, Irvine   **Irvine, CA**
Professor   *2019 – present*
Associate Professor   *2013 – 2019*
Assistant Professor   *2007 – 2013*

Toyota Technological Institute   **Chicago, IL**
Research Assistant Professor   *2007*

University of California, Irvine   **Irvine, CA**
Postdoctoral Researcher, Smyth DataLab   *2005 – 2006*

Awards

- Early Career Development (CAREER) Award   NSF, 2013 – 2018
- Dean's Award for Excellence in Teaching, ICS   UC Irvine, 2017
- First place, Approximate Inference Challenge   UAI 2012, 2014
- Chancellor's Award for Excellence in Fostering Undergraduate Research, ICS   UC Irvine, 2013
- Notable Paper Award   AI & Statistics 2011
- Best Student Paper Award   IPSN 2004
- Best Student Paper Award   NIPS 2004

Teaching

- Recommender Systems and Collaborative Filtering (ICS77b)

- Introduction to Artificial Intelligence (CS171)

- Probability in Computer Science (CS177)

- Machine Learning & Data Mining (CS178)

- Graphical Models (CS179)

- Introduction to Artificial Intelligence (CS271)

- Introduction to Machine Learning (CS273a)

- Probabilistic Learning (CS274a)

- Learning in Graphical Models (CS274b)

Publications

Journal Papers

[J24] Y. Ma, Z. Zhang, and A. Ihler. A deep choice model for hiring outcome prediction in online labor markets. *Int'l Journal of Computation, Communications & Control*, 15(2), Mar. 2020b

[J23] Y. Ma, Z. Zhang, and A. Ihler. Multi-lane short-term traffic forecasting with convolutional lstm network. *IEEE Access*, 8:34629–34643, Feb. 2020a

[J22] R. Marinescu, J. Lee, R. Dechter, and A. Ihler. And/or search for marginal map. *Journal of Artificial Intelligence Research*, 63:875–921, Oct. 2018b

[J21] Y. Ma, Z. Zhang, A. Ihler, and B. Pan. Estimating warehouse rental price using machine learning techniques. *Int'l Journal of Computation, Communications & Control*, 13(2), Apr. 2018

[J20] Y. Tao, K. Hsu, A. Ihler, X. Gao, and S. Sorooshian. A two-stage deep neural network framework for precipitation estimation from bispectral satellite information. *Journal of Hydrometeorology*, 19(2):393–408, 2018

[J19] Y. Tao, X. Gao, K. Hsu, S. Sorooshian, and A. Ihler. A deep neural network modeling framework to reduce bias in satellite precipitation products. *Journal of Hydrometeorology*, 17(3):931–945, 2016a

[J18] D. Keator and A. Ihler. Crystal identification in positron emission tomography using probabilistic graphical models. *IEEE Transactions on Nuclear Science*, 62(5):2102–2112, Oct. 2015

[J17] A. Frank, P. Smyth, and A. Ihler. Beyond MAP estimation with the track-oriented multiple-hypothesis tracker. *IEEE Transactions on Signal Processing*, 62(9):2413–2423, May 2014

[J16] D. B. Keator, J. H. Fallon, A. Lakatos, C. C. Fowlkes, S. G. Potkin, and A. Ihler. Feed-forward hierarchical model of the ventral visual stream applied to functional brain image classification. *Human Brain Mapping*, 35(1):38–52, 2014. ISSN 1097-0193

[J15] Q. Liu and A. Ihler. Variational algorithms for marginal MAP. *Journal of Machine Learning Research*, 14:3165–3200, 2013

[J14] M. Geyfman, V. Kumar, Q. Liu, R. Ruiz, W. Gordon, F. Espitia, E. Cam, S. E. Millar, P. Smyth, A. Ihler, J. S. Takahashi, and B. Andersen. Brain and muscle arnt-like protein-1 (bmal1) controls circadian cell proliferation and susceptibility to uvb-induced dna damage in the epidermis. *Proc. Nat. Acad. Sci.*, 109(29):11758–11763, July 2012

[J13] O. Sümer, U. A. Acar, A. Ihler, and R. R. Mettu. Adaptive exact inference in graphical models. *Journal of Machine Learning Research*, 12:3147–3186, Nov. 2011b

[J12] D. Bickson, D. Baron, A. Ihler, H. Avissar, and D. Dolev. Fault detection via nonparametric belief propagation. *IEEE Transactions on Signal Process.*, 59(6):2602–2613, June 2011

[J11] A. Ihler and D. Newman. Understanding errors in approximate distributed latent dirichlet allocation. *IEEE Transactions on Knowledge and Data Engineering*, 24(5):952–960, May 2012

[J10] E. Sudderth, A. Ihler, M. Isard, W. Freeman, and A. Willsky. Nonparametric belief propagation. *Communications of the ACM*, 53(10):95–103, Oct. 2010

[J9] Q. Liu, K. K. Lin, B. Anderson, P. Smyth, and A. Ihler. Estimating replicate time-shifts using Gaussian process regression. *Bioinformatics*, 26(6):770–776, Mar. 2010

[J8] D. Chudova, A. Ihler, K. K. Lin, B. Anderson, and P. Smyth. Bayesian detection of non-sinusoidal periodic patterns in circadian expression data. *Bioinformatics*, 25(23):3114–3120, Dec. 2009

[J7] K. K. Lin, V. Kumar, M. Geyfman, D. Chudova, A. T. Ihler, P. Smyth, R. Paus, J. S. Takahashi, and B. Andersen. Circadian clock genes contribute to the regulation of hair follicle cycling. *PLoS Genet*, 5(7):e1000573, 07 2009

[J6] A. Ihler, J. Hutchins, and P. Smyth. Learning to detect events with Markov-modulated Poisson processes. *ACM Trans. Knowl. Discov. Data*, 1(3):13, 2007a. ISSN 1556–4681

[J5] A. Ihler, S. Kirshner, M. Ghil, A. Robertson, and P. Smyth. Graphical models for statistical inference and data assimilation. *Physica D: Nonlinear Phenomena*, 230:72–87, June 2007b

[J4] M. Cetin, L. Chen, J. Fisher, A. Ihler, R. Moses, M. Wainwright, and A. Willsky. Distributed fusion in sensor networks: A graphical models perspective. *IEEE Signal Processing Magazine*, 23(4):43–55, July 2006

[J3] A. T. Ihler, J. W. F. III, and A. S. Willsky. Loopy belief propagation: Convergence and effects of message errors. *Journal of Machine Learning Research*, 6:905–936, May 2005c

[J2] A. T. Ihler, J. W. Fisher III, R. L. Moses, and A. S. Willsky. Nonparametric belief propagation for self-calibration in sensor networks. *IEEE Journal of Selected Areas in Communication*, 23 (4):809–819, 2005a

[J1] A. T. Ihler, J. W. F. III, and A. S. Willsky. Nonparametric hypothesis tests for statistical dependency. *IEEE Transactions on Signal Processing*, 52(8):2234–2249, Aug. 2004c

Conference Papers

[C79] N. Kennamer, E. E. O. Ishida, S. Gonzalez-Gaitan, R. S. de Souza, A. Ihler, K. Ponder, R. Vilalta, A. Moller, D. O. Jones, M. Dai, A. Krone-Martins, B. Quint, S. Sreejith, A. I. Malz, and L. Galbany. Active learning with RESSPECT: Resource allocation for extragalactic astronomical transients. In *IEEE Symposium Series on Computational Intelligence (SSCI)*, pages 3155–3124, Oct. 2020

[C78] K. Kask, B. Pezeshki, F. Broka, A. Ihler, and R. Dechter. Scaling up and/or abstraction sampling. In *Int'l Join Conference on Artificial Intelligence (IJCAI)*, pages 4266–4274, Jan. 2020

[C77] J. Lee, R. Marinescu, A. Ihler, and R. Dechter. A weighted mini-bucket bound for solving influence diagram. In *Uncertainty in Artificial Intelligence (UAI)*, pages 1–9, July 2019

[C76] R. Marinescu, R. Dechter, A. Ihler, A. Kishimoto, and A. Botea. Anytime recursive best-first search for bounding marginal map. In *Conference on Artificial Intelligence (AAAI)*, pages 7924–7932, 2019

[C75] Q. Lou, R. Dechter, and A. Ihler. Interleave variational optimization with monte carlo sampling: A tale of two approximate inference paradigms. In *Conference on Artificial Intelligence (AAAI)*, pages 7900–7907, 2019

[C74] N. Gallo and A. T. Ihler. Lifted weighted mini-bucket. In S. Bengio, H. Wallach, H. Larochelle, K. Grauman, N. Cesa-Bianchi, and R. Garnett, editors, *Advances in Neural Information Processing Systems 31*, pages 10329–10337. Curran Associates, Inc., 2018a. URL `http://papers.nips.cc/paper/8234-lifted-weighted-mini-bucket.pdf`

[C73] S. Wang, A. Ihler, K. Kording, and J. Yarkony. Accelerating dynamic programs via nested Benders decomposition with application to multi-person pose estimation. In *European Conference on Computer Vision (ECCV)*, pages 1–15, Sept. 2018

[C72] F. Broka, R. Dechter, A. Ihler, and K. Kask. Abstraction sampling in graphical models. In *Uncertainty in Artificial Intelligence (UAI)*, pages 1–9, Aug. 2018

[C71] J. Lee, A. Ihler, and R. Dechter. Join graph decomposition bounds for influence diagrams. In *Uncertainty in Artificial Intelligence (UAI)*, pages 1–9, Aug. 2018

[C70] Q. Lou, R. Dechter, and A. Ihler. Finite-sample bounds for marginal MAP. In *Uncertainty in Artificial Intelligence (UAI)*, pages 1–9, July 2018b

[C69] N. Kennamer, D. Kirkby, A. T. Ihler, and F. J. Sanchez-Lopez. Contextnet: Deep learning for star galaxy classification. In *ICML*, volume 80 of *JMLR Workshop and Conference Proceedings*, pages 2587–2595. JMLR.org, 2018

[C68] R. Marinescu, R. Dechter, and A. T. Ihler. Stochastic anytime search for bounding marginal MAP. In *Int'l Joint Conference on Artificial Intelligence (IJCAI)*, pages 5074–5081. ijcai.org, 2018a

[C67] N. Gallo and A. T. Ihler. Lifted generalized dual decomposition. In *Conference on Artificial Intelligence (AAAI)*, pages 6351–6359, 2018b

[C66] Q. Lou, R. Dechter, and A. Ihler. Anytime anyspace AND/OR best-first search for bounding marginal MAP. In *Conference on Artificial Intelligence (AAAI)*, pages 6392–6400, 2018a

[C65] Q. Lou, R. Dechter, and A. T. Ihler. Dynamic importance sampling for anytime bounds of the partition function. In *Advances in Neural Information Processing Systems 30*, pages 3196–3204. Curran Associates, Inc., 2017b

[C64] W. Ping and A. T. Ihler. Belief propagation in conditional RBMs for structured prediction. In *Conf. on AI & Statistics (AISTATS)*, volume 54, pages 1141–1149. PMLR, 2017

[C63] Q. Lou, R. Dechter, and A. Ihler. Anytime anyspace AND/OR search for bounding the partition function. In *Conference on Artificial Intelligence (AAAI)*, pages 860–867, Feb. 2017a

[C62] R. Marinescu, J. Lee, R. Dechter, and A. Ihler. Anytime best+depth-first search for bounding marginal MAP. In *Conference on Artificial Intelligence (AAAI)*, pages 3775–3782, Feb. 2017

[C61] W. Ping, Q. Liu, and A. T. Ihler. Learning infinite RBMs with Frank-Wolfe. In *Advances in Neural Information Processing Systems 29*, pages 3063–3071. Curran Associates, Inc., 2016

[C60] Y. Tao, X. Gao, A. T. Ihler, K. Hsu, and S. Sorooshian. Deep neural networks for precipitation estimation from remotely sensed information. In *2016 IEEE Congress on Evolutionary Computation (CEC)*, pages 1349–1355. IEEE, July 2016b

[C59] B. Cici, E. Alimpertis, A. T. Ihler, and A. Markopoulou. Cell-to-cell activity prediction for smart cities. In *INFOCOM Workshops*, pages 903–908. IEEE, 2016

[C58] J. Lee, R. Marinescu, R. Dechter, and A. Ihler. From exact to anytime solutions for marginal MAP. In *Conference on Artificial Intelligence (AAAI)*, pages 3255–3262, Feb. 2016

[C57] Q. Liu, J. W. Fisher III, and A. T. Ihler. Probabilistic variational bounds for graphical models. In *Advances in Neural Information Processing Systems 28*, pages 1432–1440. Curran Associates, Inc., 2015b

[C56] W. Ping, Q. Liu, and A. T. Ihler. Decomposition bounds for marginal MAP. In *Advances in Neural Information Processing Systems 28*, pages 3267–3275. Curran Associates, Inc., 2015

[C55] Q. Liu, J. Peng, A. Ihler, and J. Fisher. Estimating the partition function by discriminance sampling. In *Uncertainty in Artificial Intelligence (UAI)*, pages 1–9, July 2015c

[C54] S. Forouzan and A. Ihler. Incremental region selection for mini-bucket elimination bounds. In *Uncertainty in Artificial Intelligence (UAI)*, pages 1–10, July 2015

[C53] Q. Liu, J. Fisher, and A. Ihler. Boosting crowdsourcing with expert labels: Local vs. global effects. In *Int'l Conference on Information Fusion*, pages 9–14, July 2015a

[C52] R. Marinescu, R. Dechter, and A. Ihler. Pushing forward marginal MAP with best-first search. In *Int'l Joint Conference on Artificial Intelligence (IJCAI)*, pages 1–7, July 2015

[C51] Q. Liu and A. Ihler. Distributed estimation, information loss and exponential families. In *Advances in Neural Information Processing Systems 27*, pages 1098–1106. Curran Associates, Inc., 2014

[C50] W. Lam, K. Kask, R. Dechter, and A. T. Ihler. Beyond static mini-bucket: Towards integrating with iterative cost-shifting based dynamic heuristics. In *Symposium on Combinatorial Search (SOCS)*. AAAI Press, 2014

[C49] R. Marinescu, R. Dechter, and A. Ihler. AND/OR search for marginal MAP. In *Uncertainty in Artificial Intelligence (UAI)*, pages 563–572, July 2014

[C48] W. Ping, Q. Liu, and A. Ihler. Marginal structured svm with hidden variables. In *International Conference on Machine Learning (ICML)*, pages 190–198. JMLR Workshop and Conference Proceedings, 2014

[C47] Q. Liu, A. T. Ihler, and M. Steyvers. Scoring workers in crowdsourcing: How many control questions are enough? In *Advances in Neural Information Processing Systems 26*, pages 1914–1922. Curran Associates, Inc., 2013

[C46] Q. Cheng, Q. Liu, F. Chen, and A. Ihler. Variational planning for graph-based mdps. In *Advances in Neural Information Processing Systems 26*, pages 2976–2984. Curran Associates, Inc., 2013

[C45] S. Forouzan and A. Ihler. Linear approximation to ADMM for MAP inference. In *JMLR W&CP*, pages 48–61, Nov. 2013

[C44] B. Sajadi, D. Qoc-Lai, A. Ihler, M. Gopi, and A. Majumder. Image enhancement in projectors via optical pixel shift and overlay. In *IEEE International Conference on Computational Photography (ICCP)*, 2013

[C43] Q. Liu, J. Peng, and A. Ihler. Variational inference for crowdsourcing. In *Advances in Neural Information Processing Systems 25*, pages 701–709, 2012

[C42] J. Yarkony, A. Ihler, and C. C. Fowlkes. Fast planar correlation clustering for image segmentation. In *European Conference on Computer Vision (ECCV)*, pages 568–581. Springer Berlin Heidelberg, 2012

[C41] Q. Liu and A. Ihler. Belief propagation for structured decision making. In *Uncertainty in Artificial Intelligence (UAI)*, pages 523–532, Corvallis, Oregon, Aug. 2012b. AUAI Press

[C40] M. Welling, A. Gelfand, and A. Ihler. A cluster-cumulant expansion at the fixed points of belief propagation. In *Uncertainty in Artificial Intelligence (UAI)*, pages 883–892, Corvallis, Oregon, Aug. 2012. AUAI Press

[C39] A. Ihler, N. Flerova, R. Dechter, and L. Otten. Join-graph based cost-shifting schemes. In *Uncertainty in Artificial Intelligence (UAI)*, pages 397–406, Corvallis, Oregon, Aug. 2012. AUAI Press

[C38] A. Frank, P. Smyth, and A. Ihler. A graphical model representation of the track-oriented multiple hypothesis tracker. In *Proceedings, IEEE Statistical Signal Processing (SSP)*, pages 768–771, Aug. 2012

[C37] Q. Cheng, F. Chen, J. Dong, W. Xu, and A. Ihler. Approximating the sum operation for marginal-MAP inference. In *Conference on Artificial Intelligence (AAAI)*, pages 1882–1887, July 2012

[C36] Q. Liu and A. Ihler. Distributed parameter estimation via pseudo-likelihood. In *International Conference on Machine Learning (ICML)*, pages 1487–1494, July 2012a

[C35] Q. Liu and A. Ihler. Variational algorithms for marginal MAP. In *Uncertainty in Artificial Intelligence (UAI)*, pages 453–462, Corvallis, Oregon, July 2011c. AUAI Press

[C34] J. Yarkony, A. Ihler, and C. Fowlkes. Planar cycle covering graphs. In *Uncertainty in Artificial Intelligence (UAI)*, pages 761–769, Corvallis, Oregon, July 2011a. AUAI Press

[C33] J. Yarkony, R. Morshed, A. Ihler, and C. Fowlkes. Tightening MRF relaxations with planar subproblems. In *Uncertainty in Artificial Intelligence (UAI)*, pages 770–777, Corvallis, Oregon, July 2011b. AUAI Press

[C32] O. Sümer, U. A. Acar, A. Ihler, and R. R. Mettu. Fast parallel and adaptive updates for dual-decomposition solvers. In *Conference on Artificial Intelligence (AAAI)*, pages 1076–1082, Aug. 2011a

[C31] Q. Liu and A. Ihler. Bounding the partition function using Hölder's inequality. In *International Conference on Machine Learning (ICML)*, pages 849–856, New York, NY, USA, June 2011b. ACM

[C30] Q. Liu and A. Ihler. Learning scale free networks by reweighted L1 regularization. In *Conf. on AI & Statistics (AISTATS)*, pages 40–48. JMLR: W&CP 15, Apr. 2011a

[C29] T. Xu and A. Ihler. Multicore Gibbs sampling in dense, unstructured graphs. In *Conf. on AI & Statistics (AISTATS)*, pages 798–806. JMLR: W&CP 15, Apr. 2011

[C28] J. Foulds, N. Navaroli, P. Smyth, and A. Ihler. Revisiting MAP estimation, message passing and perfect graphs. In *Conf. on AI & Statistics (AISTATS)*, pages 278–286. JMLR: W&CP 15, Apr. 2011

[C27] Q. Liu and A. Ihler. Negative tree-reweighted belief propagation. In *Uncertainty in Artificial Intelligence (UAI)*, pages 332–339, July 2010

[C26] J. Yarkony, C. Fowlkes, and A. Ihler. Covering trees and lower bounds on quadratic assignment. In *Computer Vision and Pattern Recognition (CVPR)*, pages 887–894, June 2010

[C25] A. Asuncion, Q. Liu, A. Ihler, and P. Smyth. Particle filtered MCMC-MLE with connections to contrastive divergence. In *International Conference on Machine Learning (ICML)*, pages 47–54, Haifa, Israel, June 2010b

[C24] A. Asuncion, Q. Liu, A. Ihler, and P. Smyth. Learning with blocks: Composite likelihood and contrastive divergence. In *Conf. on AI & Statistics (AISTATS)*, pages 33–40. JMLR: W&CP 5, 2010a

[C23] A. Ihler, A. Frank, and P. Smyth. Particle-based variational inference for continuous systems. In *Advances in Neural Information Processing Systems 22*, pages 826–834, 2009

[C22] D. Bickson, A. Ihler, H. Avissar, and D. Dolev. A low density lattice decoder via non-parametric belief propagation. In *Proc. Allerton Conf. on Comm. Control and Comp.*, pages 439–446, Aug. 2009

[C21] U. Acar, A. T. Ihler, R. R. Mettu, and Ö. Sümer. Adaptive updates for MAP configurations with applications to bioinformatics. In *IEEE Statistical Signal Processing (SSP)*, pages 413–416, Aug. 2009

[C20] A. Ihler and D. McAllester. Particle belief propagation. In *Conf. on AI & Statistics (AISTATS)*, pages 256–263, Clearwater Beach, Florida, 2009. JMLR: W&CP 5

[C19] J. Hutchins, A. Ihler, and P. Smyth. Probabilistic analysis of a large scale urban traffic sensor data set. In *Knowledge Discovery from Sensor Data, LNCS # 5840*, pages 94–114. Springer, 2008

[C18] I. Porteous, D. Newman, A. Ihler, A. Asuncion, P. Smyth, and M. Welling. Fast collapsed Gibbs sampling for latent Dirichlet allocation. In *KDD '08: Proceeding of the 14th ACM SIGKDD international conference on Knowledge discovery and data mining*, pages 569–577, New York, NY, USA, 2008. ACM. ISBN 978-1-60558-193-4

[C17] U. A. Acar, A. T. Ihler, R. R. Mettu, and Ö. Sümer. Adaptive inference on general graphical models. In *Uncertainty in Artificial Intelligence (UAI)*, pages 1–8, 2008b

[C16] U. Acar, A. T. Ihler, R. R. Mettu, and Ö. Sümer. Adaptive Bayesian inference. In *Advances in Neural Information Processing Systems 20*, pages 1441–1448, Cambridge, MA, 2008a. MIT Press

[C15] J. Hutchins, A. Ihler, and P. Smyth. Modeling count data from multiple sensors: a building occupancy model. In *Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, pages 241–245, Dec. 2007

[C14] A. Ihler. Accuracy bounds for belief propagation. In *Proceedings of UAI 2007*, pages 183–190, July 2007

[C13] A. T. Ihler and P. J. Smyth. Learning time-intensity profiles of human activity using non-parametric Bayesian models. In *Neural Information Processing Systems 19*, pages 625–632, Cambridge, MA, 2007. MIT Press

[C12] A. Ihler, J. Hutchins, and P. Smyth. Adaptive event detection with time-varying Poisson processes. In *Proc. ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining*, pages 207–216, New York, NY, USA, 2006. ACM Press

[C11] I. Porteous, A. Ihler, P. Smyth, and M. Welling. Gibbs sampling for coupled infinite mixture models in the stick-breaking representation. In *Uncertainty in Artificial Intelligence (UAI)*, pages 385–392, July 2006

[C10] A. T. Ihler, J. W. F. III, and A. S. Willsky. Particle filtering under communications constraints. In *Proceedings, IEEE Statistical Signal Processing (SSP)*, pages 89–94, July 2005d

[C9] M. Siracusa, K. Tieu, A. Ihler, J. Fisher, and A. Willsky. Estimating dependency and significance for high-dimensional data. In *Proc. Int'l Conf. on Acoustics, Speech, and Signal Processing*, pages 1085–1088, 2005. ISBN 0-7803-8874-7

[C8] A. T. Ihler, J. W. Fisher III, and A. S. Willsky. Message errors in belief propagation. In *Neural Information Processing Systems 17*, pages 609–616, Cambridge, MA, 2005b. MIT Press

[C7] A. T. Ihler, J. W. Fisher III, R. L. Moses, and A. S. Willsky. Nonparametric belief propagation for sensor self-calibration. In *Proc. Int'l Conf. on Acoustics, Speech, and Signal Processing*, pages iii:861–864, 2004b

[C6] A. T. Ihler, J. W. Fisher III, R. L. Moses, and A. S. Willsky. Nonparametric belief propagation for self-calibration in sensor networks. In *Information Processing in Sensor Networks*, pages 225–233, 2004a

[C5] A. T. Ihler, E. B. Sudderth, W. T. Freeman, and A. S. Willsky. Efficient multiscale sampling from products of Gaussian mixtures. In *Neural Information Processing Systems 16*, Cambridge, MA, 2004d. MIT Press

[C4] E. B. Sudderth, A. T. Ihler, W. T. Freeman, and A. S. Willsky. Nonparametric belief propagation. In *Computer Vision and Pattern Recognition*, pages 1:605–612, 2003

[C3] A. T. Ihler, J. W. Fisher III, and A. S. Willsky. Hypothesis testing over factorizations for data association. In *Information Processing in Sensor Networks*, pages 239–253, Apr. 2003

[C2] A. T. Ihler, J. W. Fisher III, and A. S. Willsky. Nonparametric estimators for online signature authentication. In *Proc. Int'l Conf. on Acoustics, Speech, and Signal Processing*, volume 6, pages 3473–3476, May 2001

[C1] J. W. Fisher III, A. T. Ihler, and P. Viola. Learning informative statistics: A nonparametric approach. In *Neural Information Processing Systems 12*, pages 900–906, 2000

Organized Workshops & Tutorials

Combinatorial Optimization for Graphical Models   **AAMAS Tutorial**
R. Dechter, A. Ihler, R. Marinescu   *Jul 2018*

Workshop on Planning and Inference   **AAAI Workshop**
R. Khardon, A. Kumar, A. Ihler   *Feb 2018*

MLTrain   **NIPS Workshop**
A. Dimakis, N. Vasiloglou, G. Van den Broeck, A. Ihler, A. Araki   *Dec 2017*

Algorithms for Reasoning with Probabilistic Graphical Models   **DeepLearn Tutorial**
R. Dechter, A. Ihler   *Jul 2017*

New Advances in Combinatorial Optimization for Graphical Models   **IJCAI Tutorial**
R. Dechter, R. Marinescu, A. Ihler, L. Otten   *Jul 2016*

New Advances in Combinatorial Optimization for Graphical Models   **ECAI Tutorial**
R. Marinescu, L. Otten, R. Dechter, A. Ihler   *Aug 2016*

Fostering Literacy with Text and Data Mining   **CalIT2 Workshop**
M. Warschauer, A. Ihler, H. Lee, D. Zinger   *May 2016*

Advances in Combinatorial Optimization for Graphical Models   **IJCAI Tutorial**
R. Dechter, A. Ihler, R. Marinescu   *Jul 2015*

Crowdsourcing: Theory, Algorithms and Applications   **NIPS Workshop**
D. Zhou, J. Wortman Vaughan, N. Devanur, Q. Liu, A. Ihler, X. Chen   *Dec 2013*

Other Professional Activity

○ **Editorial Boards**

Journal of Machine Learning Research   *2013 – 2019*

Artificial Intelligence   *2015 – 2020*

Machine Learning   *2011 – 2013*

○ **Conference Organizational Committees**

General Chair, Uncertainty in Artificial Intelligence (UAI)   *2017*

Proceedings Co-Chair, Uncertainty in Artificial Intelligence (UAI)   *2016*

Workshops Chair, Int'l Conf. on Machine Learning (ICML)   *2014*

Publicity Chair, AI & Statistics   *2009*

○ **Area Chair or Senior Program Committee**

NIPS, ICML, UAI, AAAI, IJCAI

Group Members

Current: Noble Kennamer, Tiancheng Xu, Bobak Pezeshki

Graduated: Nick Gallo (PhD 2020), Qi Lou (PhD 2019), Wei Ping (PhD 2016), Sholeh Forouzan (PhD 2015), David Keator (PhD 2015), Qiang Liu (PhD 2014), Andrew Gelfand (PhD 2014), Andrew Frank (PhD 2013), John Hutchins (PhD 2010), Priya Venkateshan (MS 2011), Sidharth Shekhar (MS 2009)

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