Alfredo Braunstein

List of Publications by Year
in descending order

58	1,893	361296 20	265120 42
papers	citations	h-index	g-index

61	61	61	1558
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Survey propagation: An algorithm for satisfiability. Random Structures and Algorithms, 2005, 27, 201-226.	0.6	294
2	Network dismantling. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12368-12373.	3.3	167
3	Bayesian Inference of Epidemics on Networks via Belief Propagation. Physical Review Letters, 2014, 112, 118701.	2.9	140
4	Perturbation Biology: Inferring Signaling Networks in Cellular Systems. PLoS Computational Biology, 2013, 9, e1003290.	1.5	128
5	Learning by Message Passing in Networks of Discrete Synapses. Physical Review Letters, 2006, 96, 030201.	2.9	114
6	Finding undetected protein associations in cell signaling by belief propagation. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 882-887.	3.3	113
7	Simultaneous Reconstruction of Multiple Signaling Pathways via the Prize-Collecting Steiner Forest Problem. Journal of Computational Biology, 2013, 20, 124-136.	0.8	108
8	Efficient supervised learning in networks with binary synapses. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11079-11084.	3.3	90
9	Optimizing spread dynamics on graphs by message passing. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P09011.	0.9	65
10	Survey propagation as local equilibrium equations. Journal of Statistical Mechanics: Theory and Experiment, 2004, 2004, P06007.	0.9	60
11	Containing Epidemic Outbreaks by Message-Passing Techniques. Physical Review X, 2014, 4, .	2.8	39
12	Statistical Mechanics of Steiner Trees. Physical Review Letters, 2008, 101, 037208.	2.9	38
13	Large deviations of cascade processes on graphs. Physical Review E, 2013, 87, 062115.	0.8	37
14	Inference of sparse combinatorial-control networks from gene-expression data: a message passing approach. BMC Bioinformatics, 2010, 11, 355.	1.2	35
15	Estimating the size of the solution space of metabolic networks. BMC Bioinformatics, 2008, 9, 240.	1.2	33
16	The patient-zero problem with noisy observations. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P10016.	0.9	28
17	Aligning graphs and finding substructures by a cavity approach. Europhysics Letters, 2010, 89, 37009.	0.7	27
18	An analytic approximation of the feasible space of metabolic networks. Nature Communications, 2017, 8, 14915.	5.8	27

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19	Stochastic Matching Problem. Physical Review Letters, 2011, 106, 190601.	2.9	23
20	Network reconstruction from infection cascades. Journal of the Royal Society Interface, 2019, 16, 20180844.	1.5	22
21	Inference algorithms for gene networks: a statistical mechanics analysis. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P12001.	0.9	21
22	Inference and learning in sparse systems with multiple states. Physical Review E, 2011, 83, 056114.	0.8	17
23	Inference of causality in epidemics on temporal contact networks. Scientific Reports, 2016, 6, 27538.	1.6	15
24	Epidemic mitigation by statistical inference from contact tracing data. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	15
25	Encoding for the Blackwell Channel with Reinforced Belief Propagation. , 2007, , .		14
26	A rigorous analysis of the cavity equations for the minimum spanning tree. Journal of Mathematical Physics, 2008, 49, 125206.	0.5	14
27	The large deviations of the whitening process in random constraint satisfaction problems. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 053401.	0.9	14
28	A Max-Sum algorithm for training discrete neural networks. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P08008.	0.9	13
29	The Edge-Disjoint Path Problem on Random Graphs by Message-Passing. PLoS ONE, 2015, 10, e0145222.	1.1	13
30	Performance of a cavity-method-based algorithm for the prize-collecting Steiner tree problem on graphs. Physical Review E, 2012, 86, 026706.	0.8	12
31	Complexity transitions in global algorithms for sparse linear systems over finite fields. Journal of Physics A, 2002, 35, 7559-7574.	1.6	11
32	Efficient LDPC codes over GF(q) for lossy data compression. , 2009, , .		11
33	Stochastic optimization by message passing. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P11009.	0.9	11
34	Gene-network inference by message passing. Journal of Physics: Conference Series, 2008, 95, 012016.	0.3	10
35	Relationship between fitness and heterogeneity inÂexponentially growing microbial populations. Biophysical Journal, 2022, 121, 1919-1930.	0.2	9
36	Clustering with shallow trees. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P12010.	0.9	8

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37	Compressed sensing reconstruction using expectation propagation. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 184001.	0.7	8
38	Survey and Belief Propagation on Random K-SAT. Lecture Notes in Computer Science, 2004, , 519-528.	1.0	8
39	Source coding by efficient selection of ground-state clusters. Physical Review E, 2005, 72, 015103.	0.8	7
40	Statistical mechanics of budget-constrained auctions. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P07002.	0.9	7
41	Efficient data compression from statistical physics of codes over finite fields. Physical Review E, 2011, 84, 051111.	0.8	7
42	Contamination source detection in water distribution networks using belief propagation. Stochastic Environmental Research and Risk Assessment, 2020, 34, 493-511.	1.9	7
43	Simultaneous Reconstruction of Multiple Signaling Pathways via the Prize-Collecting Steiner Forest Problem. Lecture Notes in Computer Science, 2012, , 287-301.	1.0	7
44	SHARING INFORMATION TO RECONSTRUCT PATIENT-SPECIFIC PATHWAYS IN HETEROGENEOUS DISEASES. , 2013, , .		6
45	A Prize-Collecting Steiner Tree Approach for Transduction Network Inference. Lecture Notes in Computer Science, 2009, , 83-95.	1.0	5
46	Theory and learning protocols for the material tempotron model. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P12013.	0.9	5
47	Statics and Dynamics of Selfish Interactions in Distributed Service Systems. PLoS ONE, 2015, 10, e0119286.	1.1	4
48	Loop Corrections in Spin Models through Density Consistency. Physical Review Letters, 2019, 123, 020604.	2.9	4
49	Sharing information to reconstruct patient-specific pathways in heterogeneous diseases. Pacific Symposium on Biocomputing Pacific Symposium on Biocomputing, 2014, , 39-50.	0.7	4
50	Nonconvex image reconstruction via expectation propagation. Physical Review E, 2019, 100, 032134.	0.8	3
51	Exact Probing of Glassy States by Survey Propagation. Progress of Theoretical Physics Supplement, 2005, 157, 330-337.	0.2	2
52	The cavity approach for Steiner trees packing problems. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 123401.	0.9	2
53	The space of feasible solutions in metabolic networks. Journal of Physics: Conference Series, 2008, 95, 012017.	0.3	1
54	Practical optimization of Steiner trees via the cavity method. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 073302.	0.9	1

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55	Predicting epidemic evolution on contact networks from partial observations. PLoS ONE, 2017, 12, e0176376.	1.1	1
56	A density consistency approach to the inverse Ising problem. Journal of Statistical Mechanics: Theory and Experiment, 2021, 2021, 033416.	0.9	1
57	Stochastic optimization of service provision with selfish users. , 2013, , .		0
58	Expectation propagation on the diluted Bayesian classifier. Physical Review E, 2021, 103, 043301.	0.8	0