Elchanan Mossel

List of Publications by Year
in descending order

148	4,795	117625	123424
papers	citations	34 h-index	61 g-index

149	149	149	2219
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Spectral redemption in clustering sparse networks. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20935-20940.	7.1	392
2	Optimal Inapproximability Results for MAXâ€CUT and Other 2â€Variable CSPs?. SIAM Journal on Computing, 2007, 37, 319-357.	1.0	349
3	Noise stability of functions with low influences: Invariance and optimality. Annals of Mathematics, 2010, 171, 295-341.	4.2	173
4	Reconstruction and estimation in the planted partition model. Probability Theory and Related Fields, 2015, 162, 431-461.	1.8	161
5	Phylogenetic MCMC Algorithms Are Misleading on Mixtures of Trees. Science, 2005, 309, 2207-2209.	12.6	160
6	Incomplete Lineage Sorting: Consistent Phylogeny Estimation from Multiple Loci. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2010, 7, 166-171.	3.0	146
7	On the submodularity of influence in social networks. , 2007, , .		138
8	Glauber dynamics on trees and hyperbolic graphs. Probability Theory and Related Fields, 2005, 131, 311-340.	1.8	122
9	Information flow on trees. Annals of Applied Probability, 2003, 13, .	1.3	110
10	Random biochemical networks: the probability of self-sustaining autocatalysis. Journal of Theoretical Biology, 2005, 233, 327-336.	1.7	102
11	Learning functions of k relevant variables. Journal of Computer and System Sciences, 2004, 69, 421-434.	1.2	83
12	Conditional Hardness for Approximate Coloring. SIAM Journal on Computing, 2009, 39, 843-873.	1.0	80
13	Submodularity of Influence in Social Networks: From Local to Global. SIAM Journal on Computing, 2010, 39, 2176-2188.	1.0	77
14	Reconstruction on Trees: Beating the Second Eigenvalue. Annals of Applied Probability, 2001, 11, 285.	1.3	76
15	Phase transitions in phylogeny. Transactions of the American Mathematical Society, 2003, 356, 2379-2404.	0.9	74
16	Strategic Learning and the Topology of Social Networks. Econometrica, 2015, 83, 1755-1794.	4.2	74
17	A Proof of the Block Model Threshold Conjecture. Combinatorica, 2018, 38, 665-708.	1.2	73
18	Non-interactive correlation distillation, inhomogeneous Markov chains, and the reverse Bonami-Beckner inequality. Israel Journal of Mathematics, 2006, 154, 299-336.	0.8	67

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19	Majority dynamics and aggregation of information in social networks. Autonomous Agents and Multi-Agent Systems, 2014, 28, 408-429.	2.1	67
20	On the hardness of sampling independent sets beyond the tree threshold. Probability Theory and Related Fields, 2009, 143, 401-439.	1.8	66
21	Gaussian Bounds for Noise Correlation of Functions. Geometric and Functional Analysis, 2010, 19, 1713-1756.	1.8	63
22	Survey: Information flow on trees. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 2004, , 155-170.	0.0	60
23	A new look at survey propagation and its generalizations. Journal of the ACM, 2007, 54, 17.	2.2	58
24	On the Impossibility of Reconstructing Ancestral Data and Phylogenies. Journal of Computational Biology, 2003, 10, 669-676.	1.6	57
25	Asymptotic learning on Bayesian social networks. Probability Theory and Related Fields, 2014, 158, 127-157.	1.8	54
26	A phase transition for a random cluster model on phylogenetic trees. Mathematical Biosciences, 2004, 187, 189-203.	1.9	52
27	Exact thresholds for Isingâ€“Gibbs samplers on general graphs. Annals of Probability, 2013, 41, .	1.8	52
28	On the mixing time of a simple random walk on the super critical percolation cluster. Probability Theory and Related Fields, 2003, 125, 408-420.	1.8	51
29	Learning nonsingular phylogenies and hidden Markov models. , 2005, , .		48
30	Approximation Resistant Predicates from Pairwise Independence. Computational Complexity, 2009, 18, 249-271.	0.3	46
31	Robust reconstruction on trees is determined by the second eigenvalue. Annals of Probability, 2004, 32, 2630.	1.8	45
32	Mixing times of the biased card shuffling and the asymmetric exclusion process. Transactions of the American Mathematical Society, 2005, 357, 3013-3029.	0.9	43
33	On the complexity of approximating the VC dimension. Journal of Computer and System Sciences, 2002, 65, 660-671.	1.2	42
34	On Reverse Hypercontractivity. Geometric and Functional Analysis, 2013, 23, 1062-1097.	1.8	42
35	Optimal phylogenetic reconstruction. , 2006, , .		38
36	Online Conflictâ€Free Coloring for Intervals. SIAM Journal on Computing, 2007, 36, 1342-1359.	1.0	38

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37	Limitations of Markov chain Monte Carlo algorithms for Bayesian inference of phylogeny. Annals of Applied Probability, 2006, 16, 2215.	1.3	36
38	Reconstruction of Markov Random Fields from Samples: Some Observations and Algorithms. SIAM Journal on Computing, 2013, 42, 563-578.	1.0	36
39	Learning nonsingular phylogenies and hidden Markov models. Annals of Applied Probability, 2006, 16, 583.	1.3	35
40	Evolutionary trees and the Ising model on the Bethe lattice: a proof of Steelâ€™s conjecture. Probability Theory and Related Fields, 2011, 149, 149-189.	1.8	35
41	On the Influence of the Seed Graph in the Preferential Attachment Model. IEEE Transactions on Network Science and Engineering, 2015, 2, 30-39.	6.4	33
42	Reconstruction of Markov Random Fields from Samples: Some Observations and Algorithms. Lecture Notes in Computer Science, 2008, , 343-356.	1.3	33
43	On the noise sensitivity of monotone functions. Random Structures and Algorithms, 2003, 23, 333-350.	1.1	32
44	Distorted Metrics on Trees and Phylogenetic Forests. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2007, 4, 108-116.	3.0	31
45	Belief propagation, robust reconstruction and optimal recovery of block models. Annals of Applied Probability, 2016, 26, .	1.3	31
46	Conditional hardness for approximate coloring. , 2006, , .		30
47	On É›-biased generators in NC0. Random Structures and Algorithms, 2006, 29, 56-81.	1.1	29
48	Truthful Fair Division. Lecture Notes in Computer Science, 2010, , 288-299.	1.3	29
49	The Kesten-Stigum Reconstruction Bound Is Tight for Roughly Symmetric Binary Channels. , 2006, , .		28
50	Gaussian Bounds for Noise Correlation of Functions and Tight Analysis of Long Codes. , 2008, , .		28
51	Maximally stable Gaussian partitions with discrete applications. Israel Journal of Mathematics, 2012, 189, 347-396.	0.8	28
52	Recursive reconstruction on periodic trees. Random Structures and Algorithms, 1998, 13, 81-97.	1.1	27
53	Approximation Resistant Predicates from Pairwise Independence. , 2008, , .		27
54	Sorting and Selection in Posets. SIAM Journal on Computing, 2011, 40, 597-622.	1.0	27

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55	The weak limit of Ising models on locally tree-like graphs. Probability Theory and Related Fields, 2012, 152, 31-51.	1.8	27
56	Can one hear the shape of a population history?. Theoretical Population Biology, 2015, 100, 26-38.	1.1	26
57	Nearest-neighbor walks with low predictability profile and percolation in $2+epsilon$ dimensions. Annals of Probability, 1998, 26, 1212.	1.8	25
58	Mixed-up Trees: the Structure of Phylogenetic Mixtures. Bulletin of Mathematical Biology, 2008, 70, 1115-1139.	1.9	25
59	On Extracting Common Random Bits From Correlated Sources. IEEE Transactions on Information Theory, 2011, 57, 6351-6355.	2.4	25
60	A quantitative Arrow theorem. Probability Theory and Related Fields, 2012, 154, 49-88.	1.8	25
61	Mafia: A theoretical study of players and coalitions in a partial information environment. Annals of Applied Probability, 2008, 18, .	1.3	24
62	Robust dimension free isoperimetry in Gaussian space. Annals of Probability, 2015, 43, .	1.8	22
63	Local Algorithms for Block Models with Side Information. , 2016, , .		22
64	On Random Graph Homomorphisms into Z. Journal of Combinatorial Theory Series B, 2000, 78, 86-114.	1.0	21
65	Coin flipping from a cosmic source: On error correction of truly random bits. Random Structures and Algorithms, 2005, 26, 418-436.	1.1	20
66	The geometry of manipulation â€" A quantitative proof of the Gibbard-Satterthwaite theorem. Combinatorica, 2012, 32, 221-250.	1.2	19
67	Complete Convergence of Message Passing Algorithms for Some Satisfiability Problems. Lecture Notes in Computer Science, 2006, , 339-350.	1.3	19
68	Smooth compression, Gallager bound and nonlinear sparse-graph codes. , 2008, , .		18
69	A Spectral Approach to Analysing Belief Propagation for 3-Colouring. Combinatorics Probability and Computing, 2009, 18, 881-912.	1.3	18
70	New Coins From Old: Computing With Unknown Bias. Combinatorica, 2005, 25, 707-724.	1.2	17
71	Robust optimality of Gaussian noise stability. Journal of the European Mathematical Society, 2015, 17, 433-482.	1.4	17
72	The Complexity of Distinguishing Markov Random Fields. Lecture Notes in Computer Science, 2008, , 331-342.	1.3	17

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73	Rapid mixing of Gibbs sampling on graphs that are sparse on average. Random Structures and Algorithms, 2009, 35, 250-270.	1.1	16
74	Phylogenies without Branch Bounds: Contracting the Short, Pruning the Deep. SIAM Journal on Discrete Mathematics, 2011, 25, 872-893.	0.8	16
75	Efficient Bayesian Learning in Social Networks with Gaussian Estimators. , 2016, , .		16
76	Gibbs rapidly samples colorings of G(n, d/n). Probability Theory and Related Fields, 2010, 148, 37-69.	1.8	15
77	A quantitative gibbard-satterthwaite theorem without neutrality. , 2012, , .		15
78	Bayesian Decision Making in Groups is Hard. Operations Research, 2021, 69, 632-654.	1.9	15
79	The Geometry of Manipulation: A Quantitative Proof of the Gibbard-Satterthwaite Theorem. , 2010, , .		14
80	Learning DNF from random walks. Journal of Computer and System Sciences, 2005, 71, 250-265.	1.2	13
81	Social Learning Equilibria. Econometrica, 2020, 88, 1235-1267.	4.2	13
82	Phylogenies without Branch Bounds: Contracting the Short, Pruning the Deep. Lecture Notes in Computer Science, 2009, , 451-465.	1.3	13
83	Geometric influences. Annals of Probability, 2012, 40, .	1.8	12
84	Seeded graph matching via large neighborhood statistics. Random Structures and Algorithms, 2020, 57, 570-611.	1.1	12
85	On the Inference of Large Phylogenies with Long Branches: How Long Is Too Long?. Bulletin of Mathematical Biology, 2011, 73, 1627-1644.	1.9	11
86	On the Impossibility of Learning the Missing Mass. Entropy, 2019, 21, 28.	2.2	11
87	Robust Estimation of Latent Tree Graphical Models: Inferring Hidden States With Inexact Parameters. IEEE Transactions on Information Theory, 2013, 59, 4357-4373.	2.4	10
88	Making Consensus Tractable. ACM Transactions on Economics and Computation, 2013, 1, 1-19.	1.1	10
89	Sorting and Selection in Posets. , 2009, , .		10
90	Majority rule has transition ratio 4 on Yule trees under a 2-state symmetric model. Journal of Theoretical Biology, 2014, 360, 315-318.	1.7	9

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91	Harmonicity and invariance on slices of the Boolean cube. Probability Theory and Related Fields, 2019, 175, 721-782.	1.8	9
92	The Computational Complexity of Estimating MCMC Convergence Time. Lecture Notes in Computer Science, 2011, , 424-435.	1.3	9
93	Energy of Flows on Percolation Clusters. Potential Analysis, 2001, 14, 375-385.	0.9	8
94	The Minesweeper Game: Percolation and Complexity. Combinatorics Probability and Computing, 2002, 11, 487-499.	1.3	8
95	Connectivity and equilibrium in random games. Annals of Applied Probability, 2011, 21, .	1.3	8
96	Geometric influences II: Correlation inequalities and noise sensitivity. Annales De L'institut Henri Poincare (B) Probability and Statistics, 2014, 50, .	1.1	8
97	Iterative maximum likelihood on networks. Advances in Applied Mathematics, 2010, 45, 36-49.	0.7	7
98	Majority is stablest. , 2013, , .		7
99	Explicit Optimal Hardness via Gaussian Stability Results. ACM Transactions on Computation Theory, 2013, 5, 1-26.	0.7	7
100	A quantitative Gibbard-Satterthwaite theorem without neutrality. Combinatorica, 2015, 35, 317-387.	1.2	7
101	Global and Local Information in Clustering Labeled Block Models. IEEE Transactions on Information Theory, 2016, 62, 5906-5917.	2.4	7
102	A law of large numbers for weighted majority. Advances in Applied Mathematics, 2006, 37, 112-123.	0.7	6
103	Slow emergence of cooperation for win-stay lose-shift on trees. Machine Learning, 2007, 67, 7-22.	5.4	6
104	Phylogenetic mixtures: Concentration of measure in the large-tree limit. Annals of Applied Probability, 2012, 22, .	1.3	6
105	A note on the Entropy/Influence conjecture. Discrete Mathematics, 2012, 312, 3364-3372.	0.7	6
106	Identifiability and inference of non-parametric rates-across-sites models on large-scale phylogenies. Journal of Mathematical Biology, 2013, 67, 767-797.	1.9	6
107	On Extracting Common Random Bits From Correlated Sources on Large Alphabets. IEEE Transactions on Information Theory, 2014, 60, 1630-1637.	2.4	6
108	Broadcasting on Random Directed Acyclic Graphs. IEEE Transactions on Information Theory, 2020, 66, 780-812.	2.4	6

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109	How Many Subpopulations Is Too Many? Exponential Lower Bounds for Inferring Population Histories. Journal of Computational Biology, 2020, 27, 613-625.	1.6	6
110	Bayesian Group Decisions: Algorithms and Complexity. SSRN Electronic Journal, 0, , .	0.4	6
111	Invariance Principle on the Slice. ACM Transactions on Computation Theory, 2018, 10, 1-37.	0.7	6
112	Complete characterization of functions satisfying the conditions of Arrowâ€™s theorem. Social Choice and Welfare, 2012, 39, 127-140.	0.8	5
113	Quickest online selection of an increasing subsequence of specified size. Random Structures and Algorithms, 2016, 49, 235-252.	1.1	5
114	Competing first passage percolation on random regular graphs. Random Structures and Algorithms, 2017, 50, 534-583.	1.1	5
115	Distance-based species tree estimation under the coalescent: Information-theoretic trade-off between number of loci and sequence length. Annals of Applied Probability, 2017, 27, .	1.3	5
116	Non interactive simulation of correlated distributions is decidable. , 2018, , 2728-2746.		5
117	Shotgun assembly of random jigsaw puzzles. Random Structures and Algorithms, 2020, 56, 998-1015.	1.1	5
118	Shrinkage Effect in Ancestral Maximum Likelihood. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2009, 6, 126-133.	3.0	4
119	Co-evolution Is Incompatible with the Markov Assumption in Phylogenetics. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2011, 8, 1667-1670.	3.0	4
120	Broadcasting on Random Networks. , 2019, , .		4
121	The probability of intransitivity in dice and close elections. Probability Theory and Related Fields, 2020, 178, 951-1009.	1.8	4
122	Iterative maximum likelihood on networks. , 2009, , .		3
123	Exit time tails from pairwise decorrelation in hidden Markov chains, with applications to dynamical percolation. Electronic Journal of Probability, 2012, 17, .	1.0	3
124	VC bounds on the cardinality of nearly orthogonal function classes. Discrete Mathematics, 2012, 312, 1766-1775.	0.7	3
125	On the correlation of increasing families. Journal of Combinatorial Theory - Series A, 2016, 144, 250-276.	0.8	3
126	Standard simplices and pluralities are not the most noise stable. Israel Journal of Mathematics, 2016, 213, 33-53.	0.8	3

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127	Seeding with Costly Network Information. SSRN Electronic Journal, 0, , .	0.4	3
128	Seeding with Costly Network Information. Operations Research, 2022, 70, 2318-2348.	1.9	3
129	Inference in Opinion Dynamics Under Social Pressure. IEEE Transactions on Automatic Control, 2023, 68, 3377-3392.	5.7	3
130	Phylogenetic information complexity: Is testing a tree easier than finding it?. Journal of Theoretical Biology, 2009, 258, 95-102.	1.7	2
131	Application of a Generalization of Russo's Formula to Learning from Multiple Random Oracles. Combinatorics Probability and Computing, 2010, 19, 183-199.	1.3	2
132	Election manipulation. , 2012, 11, 22-24.		2
133	Noise correlation bounds for uniform low degree functions. Arkiv for Matematik, 2013, 51, 29-52.	0.5	2
134	How Many Subpopulations Is Too Many? Exponential Lower Bounds for Inferring Population Histories. Lecture Notes in Computer Science, 2019, , 136-157.	1.3	2
135	Gaussian bounds for noise correlation of resilient functions. Israel Journal of Mathematics, 2020, 235, 111-137.	0.8	2
136	Recursive reconstruction on periodic trees. , 1998, 13, 81.		2
137	Social Learning Equilibria. SSRN Electronic Journal, 0, , .	0.4	2
138	Shotgun assembly of ErdÅ‘s-RÃ©nyi random graphs. Electronic Communications in Probability, 2022, 27, .	0.4	2
139	Probabilistic view of voting, paradoxes, and manipulation. Bulletin of the American Mathematical Society, 2022, 59, 297-330.	1.5	2
140	Mixing under monotone censoring. Electronic Communications in Probability, 2014, 19, .	0.4	1
141	Reconstruction on 2D Regular Grids. , 2021, , .		1
142	Branching Process Approach for 2-Sat Thresholds. Journal of Applied Probability, 2010, 47, 796-810.	0.7	1
143	AND testing and robust judgement aggregation. , 2020, , .		1
144	A stochastic Farris transform for genetic data under the multispecies coalescent with applications to data requirements. Journal of Mathematical Biology, 2022, 84, 36.	1.9	1

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145	Broadcasting on Two-Dimensional Regular Grids. IEEE Transactions on Information Theory, 2022, , 1-1.	2.4	1
146	Approximate polymorphisms. , 2022, , .		1
147	Branching Process Approach for 2-Sat Thresholds. Journal of Applied Probability, 2010, 47, 796-810.	0.7	0
148	Scaling Limits for Width Two Partially Ordered Sets: The Incomparability Window. Order, 2013, 30, 289-311.	0.5	0