Venkatesan Guruswami

List of Publications by Year
in descending order

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87 papers	2,484 citations	257357 24 h-index	254106 43 g-index
87 all docs	87 docs citations	87 times ranked	990 citing authors

#	Article	IF	Citations
1	Clustering with qualitative information. Journal of Computer and System Sciences, 2005, 71, 360-383.	0.9	187
2	Unbalanced expanders and randomness extractors from Parvaresh--Vardy codes. Journal of the ACM, 2009, 56, 1-34.	1.8	181
3	Explicit Codes Achieving List Decoding Capacity: Error-Correction With Optimal Redundancy. IEEE Transactions on Information Theory, 2008, 54, 135-150.	1.5	139
4	Near-optimal hardness results and approximation algorithms for edge-disjoint paths and related problems. Journal of Computer and System Sciences, 2003, 67, 473-496.	0.9	109
5	A New Multilayered PCP and the Hardness of Hypergraph Vertex Cover. SIAM Journal on Computing, 2005, 34, 1129-1146.	0.8	87
6	Restricted Isometry of Fourier Matrices and List Decodability of Random Linear Codes. SIAM Journal on Computing, 2013, 42, 1888-1914.	0.8	82
7	Efficient Low-Redundancy Codes for Correcting Multiple Deletions. IEEE Transactions on Information Theory, 2018, 64, 3403-3410.	1.5	73
8	Algorithmic aspects of clique-transversal and clique-independent sets. Discrete Applied Mathematics, 2000, 100, 183-202.	0.5	64
9	Repairing Reed-Solomon Codes. IEEE Transactions on Information Theory, 2017, , 1-1.	1.5	61
10	Deletion Codes in the High-Noise and High-Rate Regimes. IEEE Transactions on Information Theory, 2017, 63, 1961-1970.	1.5	61
11	Lasserre Hierarchy, Higher Eigenvalues, and Approximation Schemes for Graph Partitioning and Quadratic Integer Programming with PSD Objectives. , 2011, , .		60
12	How Long Can Optimal Locally Repairable Codes Be?. IEEE Transactions on Information Theory, 2019, 65, 3662-3670.	1.5	57
13	Polar Codes: Speed of Polarization and Polynomial Gap to Capacity. IEEE Transactions on Information Theory, 2015, 61, 3-16.	1.5	56
14	Near-optimal linear-time codes for unique decoding and new list-decodable codes over smaller alphabets. , 2002, , .		53
15	Beating the Random Ordering Is Hard: Every Ordering CSP Is Approximation Resistant. SIAM Journal on Computing, 2011, 40, 878-914.	0.8	53
16	List decoding reed-solomon, algebraic-geometric, and gabidulin subcodes up to the singleton bound. , 2013, , .		49
17	Repairing Reed-solomon codes. , 2016, , .		48
18	Linear-Algebraic List Decoding for Variants of Reedâ€“Solomon Codes. IEEE Transactions on Information Theory, 2013, 59, 3257-3268.	1.5	47

#	Article	IF	Citations
19	Codes for Computationally Simple Channels: Explicit Constructions with Optimal Rate. , 2010, , .		46
20	Inapproximability of Edge-Disjoint Paths and low congestion routing on undirected graphs. Combinatorica, 2010, 30, 485-520.	0.6	44
21	On the Hardness of 4-Coloring a 3-Colorable Graph. SIAM Journal on Discrete Mathematics, 2004, 18, 30-40.	0.4	43
22	Query Strategies for Priced Information. Journal of Computer and System Sciences, 2002, 64, 785-819.	0.9	42
23	The complexity of the covering radius problem. Computational Complexity, 2005, 14, 90-121.	0.2	40
24	Agnostic Learning of Monomials by Halfspaces Is Hard. SIAM Journal on Computing, 2012, 41, 1558-1590.	0.8	40
25	MDS Code Constructions With Small Sub-Packetization and Near-Optimal Repair Bandwidth. IEEE Transactions on Information Theory, 2018, 64, 6506-6525.	1.5	36
26	Hardness of Approximate Hypergraph Coloring. SIAM Journal on Computing, 2002, 31, 1663-1686.	0.8	35
27	An Improved Bound on the Fraction of Correctable Deletions. IEEE Transactions on Information Theory, 2017, 63, 93-103.	1.5	32
28	Explicit subspace designs. Combinatorica, 2016, 36, 161-185.	0.6	31
29	Folded codes from function field towers and improved optimal rate list decoding. , 2012, , .		27
30	Linear time encodable and list decodable codes. , 2003, , .		26
31	On the List-Decodability of Random Linear Codes. IEEE Transactions on Information Theory, 2011, 57, 718-725.	1.5	26
32	$(2+varepsilon)$-Sat Is NP-hard. SIAM Journal on Computing, 2017, 46, 1554-1573.	0.8	25
33	Hardness of Learning Halfspaces with Noise. SIAM Journal on Computing, 2009, 39, 742-765.	0.8	24
34	Efficiently decodable insertion/deletion codes for high-noise and high-rate regimes. , 2016, , .		23
35	Explicit List-Decodable Rank-Metric and Subspace Codes via Subspace Designs. IEEE Transactions on Information Theory, 2016, 62, 2707-2718.	1.5	23
36	Maximally Recoverable LRCs: A Field Size Lower Bound and Constructions for Few Heavy Parities. IEEE Transactions on Information Theory, 2020, 66, 6066-6083.	1.5	23

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37	Inapproximability Results for Set Splitting and Satisfiability Problems with No Mixed Clauses. Algorithmica, 2004, 38, 451-469.	1.0	21
38	Maximum cut on line and total graphs. Discrete Applied Mathematics, 1999, 92, 217-221.	0.5	20
39	Almost Euclidean subspaces of â„“ 1 N VIA expander codes. Combinatorica, 2010, 30, 47-68.	0.6	20
40	Explicit Two-Deletion Codes With Redundancy Matching the Existential Bound. IEEE Transactions on Information Theory, 2021, 67, 6384-6394.	1.5	20
41	General strong polarization. , 2018, , .		19
42	A Lower Bound on List Size for List Decoding. IEEE Transactions on Information Theory, 2010, 56, 5681-5688.	1.5	18
43	List Decoding Tensor Products and Interleaved Codes. SIAM Journal on Computing, 2011, 40, 1432-1462.	0.8	17
44	Constructions of Maximally Recoverable Local Reconstruction Codes via Function Fields. IEEE Transactions on Information Theory, 2020, 66, 6133-6143.	1.5	17
45	Optimally resilient codes for list-decoding from insertions and deletions. , 2020, , .		17
46	An exponential lower bound on the sub-packetization of MSR codes. , 2019, , .		16
47	Locally Testable Codes Require Redundant Testers. SIAM Journal on Computing, 2010, 39, 3230-3247.	0.8	13
48	Polynomial Time Decodable Codes for the Binary Deletion Channel. IEEE Transactions on Information Theory, 2019, 65, 2171-2178.	1.5	13
49	Correlated algebraic-geometric codes: Improved list decoding over bounded alphabets. Mathematics of Computation, 2008, 77, 447-473.	1.1	12
50	Explicit Subspace Designs. , 2013, , .		12
51	Explicit optimal-length locally repairable codes of distance 5. , 2018, , .		11
52	A Lower Bound on List Size for List Decoding. Lecture Notes in Computer Science, 2005, , 318-329.	1.0	11
53	Limits to list decoding Reed-Solomon codes. , 2005, , .		10
54	Combinatorial Limitations of Average-Radius List-Decoding. IEEE Transactions on Information Theory, 2014, 60, 5827-5842.	1.5	10

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55	An improved bound on the fraction of correctable deletions. , 2016, , .		10
56	Superlinear Lower Bounds for Multipass Graph Processing. Algorithmica, 2016, 76, 654-683.	1.0	10
57	Guest column. ACM SIGACT News, 2004, 35, 25-41.	0.1	9
58	Agnostic Learning of Monomials by Halfspaces Is Hard. , 2009, , .		9
59	Strong Inapproximability Results on Balanced Rainbow-Colorable Hypergraphs. Combinatorica, 2018, 38, 547-599.	0.6	9
60	Restricted Isometry of Fourier Matrices and List Decodability of Random Linear Codes. , 2013, , .		9
61	Non-malleable Coding Against Bit-Wise and Split-State Tampering. Journal of Cryptology, 2017, 30, 191-241.	2.1	8
62	Robust Fourier and Polynomial Curve Fitting. , 2016, , .		7
63	Maximally Recoverable LRCs: A field size lower bound and constructions for few heavy parities. , 2019, , 2154-2170.		7
64	An Exponential Lower Bound on the Sub-Packetization of Minimum Storage Regenerating Codes. IEEE Transactions on Information Theory, 2021, 67, 8086-8093.	1.5	7
65	PCPs via Low-Degree Long Code and Hardness for Constrained Hypergraph Coloring. , 2013, , .		6
66	Near-optimal Repair of Reed-Solomon Codes with Low Sub-packetization. , 2019, , .		5
67	An Improved Bound on the Zero-Error List-Decoding Capacity of the 4/3 Channel. IEEE Transactions on Information Theory, 2020, 66, 749-756.	1.5	5
68	Ïµ-MSR Codes: Contacting Fewer Code Blocks for Exact Repair. IEEE Transactions on Information Theory, 2020, 66, 6749-6761.	1.5	5
69	The zero-rate threshold for adversarial bit-deletions is less than 1/2. , 2022, , .		5
70	Hitting Sets for Low-Degree Polynomials with Optimal Density. , 2014, , .		4
71	Efficiently List-Decodable Punctured Reed-Muller Codes. IEEE Transactions on Information Theory, 2017, 63, 4317-4324.	1.5	4
72	On the List-Decodability of Random Linear Rank-Metric Codes. , 2018, , .		4

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73	Coding Against Deletions in Oblivious and Online Models. IEEE Transactions on Information Theory, 2020, 66, 2352-2374.	1.5	4
74	Complexity of Approximating CSP with Balance / Hard Constraints. Theory of Computing Systems, 2016, 59, 76-98.	0.7	3
75	Super-Polylogarithmic Hypergraph Coloring Hardness via Low-Degree Long Codes. SIAM Journal on Computing, 2017, 46, 132-159.	0.8	3
76	Communication With Imperfectly Shared Randomness. IEEE Transactions on Information Theory, 2017, 63, 6799-6818.	1.5	3
77	Bridging Shannon and Hamming: List Error-correction with Optimal Rate. , 2011, , .		3
78	Bounds for List-Decoding and List-Recovery of Random Linear Codes. IEEE Transactions on Information Theory, 2022, 68, 923-939.	1.5	3
79	PCPs via the low-degree long code and hardness for constrained hypergraph coloring. Israel Journal of Mathematics, 2015, 209, 611-649.	0.4	2
80	Lossless Dimension Expanders Via Linearized Polynomials and Subspace Designs. Combinatorica, 2021, 41, 545-579.	0.6	2
81	Optimally Resilient Codes for List-Decoding from Insertions and Deletions. IEEE Transactions on Information Theory, 2021, , 1-1.	1.5	2
82	Optimal Rate List Decoding over Bounded Alphabets Using Algebraic-geometric Codes. Journal of the ACM, 2022, 69, 1-48.	1.8	2
83	General Strong Polarization. Journal of the ACM, 2022, 69, 1-67.	1.8	2
84	Expander codes over reals, Euclidean sections, and compressed sensing. , 2009, , .		1
85	CNF Satisfiability in a Subspace and Related Problems. Algorithmica, 2022, 84, 3276-3299.	1.0	1
86	The query complexity of estimating weighted averages. Acta Informatica, 2011, 48, 417-426.	0.5	0
87	Threshold Rates for Properties of Random Codes. IEEE Transactions on Information Theory, 2022, 68, 905-922.	1.5	0