Roman Vershynin

List of Publications by Year
in descending order

36 papers	5,011 citations	304743 22 h-index	477307 29 g-index
36 all docs	36 docs citations	36 times ranked	3111 citing authors

#	Article	IF	Citations
1	Uniform Uncertainty Principle and Signal Recovery viaÂRegularized Orthogonal Matching Pursuit. Foundations of Computational Mathematics, 2009, 9, 317-334.	2.5	732
2	Signal Recovery From Incomplete and Inaccurate Measurements Via Regularized Orthogonal Matching Pursuit. IEEE Journal on Selected Topics in Signal Processing, 2010, 4, 310-316.	10.8	663
3	Introduction to the non-asymptotic analysis of random matrices. , 2012, , 210-268.		611
4	On sparse reconstruction from Fourier and Gaussian measurements. Communications on Pure and Applied Mathematics, 2008, 61, 1025-1045.	3.1	568
5	A Randomized Kaczmarz Algorithm with Exponential Convergence. Journal of Fourier Analysis and Applications, 2009, 15, 262-278.	1.0	500
6	Oneâ€Bit Compressed Sensing by Linear Programming. Communications on Pure and Applied Mathematics, 2013, 66, 1275-1297.	3.1	222
7	Smallest singular value of a random rectangular matrix. Communications on Pure and Applied Mathematics, 2009, 62, 1707-1739.	3.1	177
8	Sampling from large matrices. Journal of the ACM, 2007, 54, 21.	2.2	176
9	Error correction via linear programming. , 2005, , .		144
10	Sparse reconstruction by convex relaxation: Fourier and Gaussian measurements. , 2006, , .		144
11	How Close is the Sample Covariance Matrix toÂtheÂActual Covariance Matrix?. Journal of Theoretical Probability, 2012, 25, 655-686.	0.8	139
12	The Generalized Lasso With Non-Linear Observations. IEEE Transactions on Information Theory, 2016, 62, 1528-1537.	2.4	99
13	Title is missing!. International Mathematics Research Notices, 2005, 2005, 4019.	1.0	94
14	Community detection in sparse networks via Grothendieckâ€™s inequality. Probability Theory and Related Fields, 2016, 165, 1025-1049.	1.8	76
15	Invertibility of symmetric random matrices. Random Structures and Algorithms, 2014, 44, 135-182.	1.1	70
16	Dimension Reduction by Random Hyperplane Tessellations. Discrete and Computational Geometry, 2014, 51, 438-461.	0.6	67
17	Concentration and regularization of random graphs. Random Structures and Algorithms, 2017, 51, 538-561.	1.1	60
18	Greedy signal recovery review. , 2008, , .		58

#	Article	IF	Citations
19	Non-asymptotic Theory of Random Matrices: Extreme Singular Values. , 2011, , .		46
20	Uncertainty Principles and Vector Quantization. IEEE Transactions on Information Theory, 2010, 56, 3491-3501.	2.4	42
21	The capacity of feedforward neural networks. Neural Networks, 2019, 116, 288-311.	5.9	39
22	Phase retrieval via randomized Kaczmarz: theoretical guarantees. Information and Inference, 2019, 8, 97-123.	1.6	37
23	No-gaps delocalization for general random matrices. Geometric and Functional Analysis, 2016, 26, 1716-1776.	1.8	36
24	Spectral norm of products of random and deterministic matrices. Probability Theory and Related Fields, 2011, 150, 471-509.	1.8	33
25	Estimation in High Dimensions: A Geometric Perspective. Applied and Numerical Harmonic Analysis, 2015, , 3-66.	0.3	33
26	A Simple Tool for Bounding the Deviation of Random Matrices on Geometric Sets. Lecture Notes in Mathematics, 2017, , 277-299.	0.2	30
27	Comments on the Randomized Kaczmarz Method. Journal of Fourier Analysis and Applications, 2009, 15, 437-440.	1.0	27
28	Partial estimation of covariance matrices. Probability Theory and Related Fields, 2012, 153, 405-419.	1.8	17
29	Frame expansions with erasures: an approach through the non-commutative operator theory. Applied and Computational Harmonic Analysis, 2005, 18, 167-176.	2.2	15
30	The smallest singular value of inhomogeneous square random matrices. Annals of Probability, 2021, 49, .	1.8	14
31	Beyond Hirsch Conjecture: Walks on Random Polytopes and Smoothed Complexity of the Simplex Method. , 2006, , .		11
32	Approximating the moments of marginals of high-dimensional distributions. Annals of Probability, 2011, 39, .	1.8	9
33	On the Effective Measure of Dimension in the Analysis Cosparse Model. IEEE Transactions on Information Theory, 2015, 61, 5745-5753.	2.4	8
34	Isoperimetry of waists and local versus global asymptotic convex geometries. Duke Mathematical Journal, 2006, 131, 1.	1.5	7
35	On the role of sparsity in Compressed Sensing and random matrix theory. , 2009, , .		4
36	A theory of capacity and sparse neural encoding. Neural Networks, 2021, 143, 12-27.	5.9	3