

# Jeffrey Scott Vitter

## List of Publications by Year in descending order

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171  
papers

5,758  
citations

136885

32  
h-index

138417

58  
g-index

173  
all docs

173  
docs citations

173  
times ranked

1715  
citing authors

#	ARTICLE	IF	CITATIONS
1	External memory algorithms and data structures. ACM Computing Surveys, 2001, 33, 209-271.	16.1	485
2	Compressed Suffix Arrays and Suffix Trees with Applications to Text Indexing and String Matching. SIAM Journal on Computing, 2005, 35, 378-407.	0.8	321
3	Design and analysis of dynamic Huffman codes. Journal of the ACM, 1987, 34, 825-845.	1.8	276
4	Wavelet-based histograms for selectivity estimation. , 1998, , .		266
5	Approximate computation of multidimensional aggregates of sparse data using wavelets. , 1999, , .		180
6	Data cube approximation and histograms via wavelets. , 1998, , .		167
7	Compressed suffix arrays and suffix trees with applications to text indexing and string matching (extended abstract). , 2000, , .		142
8	Approximation algorithms for geometric median problems. Information Processing Letters, 1992, 44, 245-249.	0.4	134
9	Optimal External Memory Interval Management. SIAM Journal on Computing, 2003, 32, 1488-1508.	0.8	112
10	Shortest paths in euclidean graphs. Algorithmica, 1986, 1, 31-48.	1.0	110
11	Approximate computation of multidimensional aggregates of sparse data using wavelets. SIGMOD Record, 1999, 28, 193-204.	0.7	110
12	Algorithms and Data Structures for External Memory. Foundations and Trends in Theoretical Computer Science, 2006, 2, 305-474.	2.0	104
13	Optimal prefetching via data compression. Journal of the ACM, 1996, 43, 771-793.	1.8	99
14	On two-dimensional indexability and optimal range search indexing. , 1999, , .		98
15	Practical Implementations of Arithmetic Coding. Kluwer International Series in Engineering and Computer Science, 1992, , 85-112.	0.2	97
16	Faster methods for random sampling. Communications of the ACM, 1984, 27, 703-718.	3.3	89
17	Rank-aware query optimization. , 2004, , .		79
18	Simple randomized mergesort on parallel disks. Parallel Computing, 1997, 23, 601-631.	1.3	77

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19	Wavelet-based histograms for selectivity estimation. SIGMOD Record, 1998, 27, 448-459.	0.7	76
20	Complexity models for incremental computation. Theoretical Computer Science, 1994, 130, 203-236.	0.5	73
21	When indexing equals compression. ACM Transactions on Algorithms, 2006, 2, 611-639.	0.9	72
22	Space-Efficient Framework for Top-k String Retrieval Problems. , 2009, , .		69
23	Greedy sort. Journal of the ACM, 1995, 42, 919-933.	1.8	68
24	Bkd-Tree: A Dynamic Scalable kd-Tree. Lecture Notes in Computer Science, 2003, , 46-65.	1.0	68
25	An efficient algorithm for sequential random sampling. ACM Transactions on Mathematical Software, 1987, 13, 58-67.	1.6	65
26	Analysis of arithmetic coding for data compression. Information Processing and Management, 1992, 28, 749-763.	5.4	63
27	Pairing heaps. Communications of the ACM, 1987, 30, 234-249.	3.3	61
28	Deterministic distribution sort in shared and distributed memory multiprocessors. , 1993, , .		61
29	External memory algorithms. , 1998, , .		61
30	Average-Case Analysis of Algorithms and Data Structures. , 1990, , 431-524.		58
31	Strategic directions in storage I/O issues in large-scale computing. ACM Computing Surveys, 1996, 28, 779-793.	16.1	58
32	Algorithm 673. ACM Transactions on Mathematical Software, 1989, 15, 158-167.	1.6	52
33	US&R. Software Engineering Notes: an Informal Newsletter of the Special Interest Committee on Software Engineering / ACM, 1984, 9, 168-176.	0.5	51
34	Complexity results on learning by neural nets. Machine Learning, 1991, 6, 211-230.	3.4	50
35	Complexity Results on Learning by Neural Nets. Machine Learning, 1991, 6, 211-230.	3.4	48
36	New methods for lossless image compression using arithmetic coding. Information Processing and Management, 1992, 28, 765-779.	5.4	48

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37	On sorting strings in external memory (extended abstract). , 1997, , .		46
38	Indexing for Data Models with Constraints and Classes. Journal of Computer and System Sciences, 1996, 52, 589-612.	0.9	45
39	Adaptive rank-aware query optimization in relational databases. ACM Transactions on Database Systems, 2006, 31, 1257-1304.	1.5	45
40	Compressed data structures: Dictionaries and data-aware measures. Theoretical Computer Science, 2007, 387, 313-331.	0.5	42
41	Wavelet Trees: From Theory to Practice. , 2011, , .		42
42	Geometric Burrows-Wheeler Transform: Linking Range Searching and Text Indexing. Proceedings of the Data Compression Conference, 2008, , .	0.0	41
43	Efficient 3-D range searching in external memory. , 1996, , .		39
44	Lower bounds for planar orthogonal drawings of graphs. Information Processing Letters, 1991, 39, 35-40.	0.4	38
45	Efficient Searching with Linear Constraints. Journal of Computer and System Sciences, 2000, 61, 194-216.	0.9	38
46	Inverted indexes for phrases and strings. , 2011, , .		34
47	Lexicographic Bit Allocation for MPEG Video. Journal of Visual Communication and Image Representation, 1997, 8, 384-404.	1.7	33
48	On searching compressed string collections cache-obliviously. , 2008, , .		33
49	Optimal Prediction for Prefetching in the Worst Case. SIAM Journal on Computing, 1998, 27, 1617-1636.	0.8	31
50	Space-Efficient Frameworks for Top- k String Retrieval. Journal of the ACM, 2014, 61, 1-36.	1.8	28
51	Efficient sorting using registers and caches. Journal of Experimental Algorithmics, 2002, 7, 9.	0.7	27
52	External-memory algorithms for processing line segments in geographic information systems. Lecture Notes in Computer Science, 1995, , 295-310.	1.0	26
53	Binary Space Partitions for Fat Rectangles. SIAM Journal on Computing, 2000, 29, 1422-1448.	0.8	25
54	Implementing I/O-efficient Data Structures Using TPIE. Lecture Notes in Computer Science, 2002, , 88-100.	1.0	23

#	ARTICLE	IF	CITATIONS
55	Modeling and optimizing I/O throughput of multiple disks on a bus. , 1999, , .		22
56	A Unified Approach for Indexed and Non-indexed Spatial Joins. Lecture Notes in Computer Science, 2000, , 413-429.	1.0	22
57	External-Memory Algorithms for Processing Line Segments in Geographic Information Systems. Algorithmica, 2007, 47, 1-25.	1.0	21
58	Compressed Index for Dictionary Matching. , 2008, , .		21
59	Efficient Maximal Repeat Finding Using the Burrows-Wheeler Transform and Wavelet Tree. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2012, 9, 421-429.	1.9	21
60	Practical prefetching via data compression. SIGMOD Record, 1993, 22, 257-266.	0.7	20
61	Compression, Indexing, and Retrieval for Massive String Data. Lecture Notes in Computer Science, 2010, , 260-274.	1.0	20
62	External memory algorithms and data structures. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 1999, , 1-38.	0.0	20
63	Analysis of the Search Performance of Coalesced Hashing. Journal of the ACM, 1983, 30, 231-258.	1.8	19
64	On position restricted substring searching in succinct space. Journal of Discrete Algorithms, 2012, 17, 109-114.	0.7	19
65	Characterizing Web Document Change. Lecture Notes in Computer Science, 2001, , 133-144.	1.0	19
66	Coping with Uncertainty in Map Learning. Machine Learning, 1997, 29, 65-88.	3.4	18
67	An Efficient Algorithm for Discovering Motifs in Large DNA Data Sets. IEEE Transactions on Nanobioscience, 2015, 14, 535-544.	2.2	18
68	An efficient algorithm for graph edit distance computation. Knowledge-Based Systems, 2019, 163, 762-775.	4.0	17
69	String Retrieval for Multi-pattern Queries. Lecture Notes in Computer Science, 2010, , 55-66.	1.0	17
70	Top-k Document Retrieval in External Memory. Lecture Notes in Computer Science, 2013, , 803-814.	1.0	17
71	Competitive Parallel Disk Prefetching and Buffer Management. Journal of Algorithms, 2000, 36, 152-181.	0.9	16
72	Dynamic Generation of Discrete Random Variates. Theory of Computing Systems, 2003, 36, 329-358.	0.7	16

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73	Faster Compressed Dictionary Matching. Lecture Notes in Computer Science, 2010, , 191-200.	1.0	16
74	Implementations for coalesced hashing. Communications of the ACM, 1982, 25, 911-926.	3.3	15
75	A Framework for Index Bulk Loading and Dynamization. Lecture Notes in Computer Science, 2001, , 115-127.	1.0	15
76	A Framework for Dynamizing Succinct Data Structures. Lecture Notes in Computer Science, 2007, , 521-532.	1.0	15
77	Learning in parallel. Information and Computation, 1992, 96, 179-202.	0.5	14
78	Competitive parallel disk prefetching and buffer management. , 1997, , .		14
79	Cylindrical static and kinetic binary space partitions. Computational Geometry: Theory and Applications, 2000, 16, 103-127.	0.3	14
80	Scalable mining for classification rules in relational databases. Lecture Notes-monograph Series / Institute of Mathematical Statistics, 2004, 45, 348-377.	1.0	14
81	Geometric BWT: Compressed Text Indexing via Sparse Suffixes and Range Searching. Algorithmica, 2015, 71, 258-278.	1.0	14
82	On Entropy-Compressed Text Indexing in External Memory. Lecture Notes in Computer Science, 2009, , 75-89.	1.0	14
83	Indexes for Document Retrieval with Relevance. Lecture Notes in Computer Science, 2013, , 351-362.	1.0	14
84	Blocking for external graph searching. , 1993, , .		13
85	Design and analysis of fast text compression based on quasi-arithmetic coding. Information Processing and Management, 1994, 30, 777-790.	5.4	13
86	Application-Controlled Paging for a Shared Cache. SIAM Journal on Computing, 2000, 29, 1290-1303.	0.8	13
87	Duality Between Prefetching and Queued Writing with Parallel Disks. SIAM Journal on Computing, 2005, 34, 1443-1463.	0.8	13
88	An Efficient Exact Algorithm for the Motif Stem Search Problem over Large Alphabets. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2015, 12, 384-397.	1.9	13
89	Wavelet-Based Cost Estimation for Spatial Queries. Lecture Notes in Computer Science, 2001, , 175-193.	1.0	13
90	Online Data Structures in External Memory. Lecture Notes in Computer Science, 1999, , 119-133.	1.0	13

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91	Online perfect matching and mobile computing. Lecture Notes in Computer Science, 1995, , 194-205.	1.0	13
92	The complexity of hashing with lazy deletion. Algorithmica, 1986, 1, 17-29.	1.0	12
93	Efficient memory access in large-scale computation. , 1991, , 26-41.		12
94	Parallel lossless image compression using Huffman and arithmetic coding. Information Processing Letters, 1996, 59, 65-73.	0.4	12
95	Online algorithms for prefetching and caching on parallel disks. , 2004, , .		12
96	Distribution sort with randomized cycling. Journal of the ACM, 2006, 53, 656-680.	1.8	12
97	Dynamic Data Structures for Document Collections and Graphs. , 2015, , .		12
98	Efficient Graph Similarity Search in External Memory. IEEE Access, 2017, 5, 4551-4560.	2.6	12
99	Succinct Index for Dynamic Dictionary Matching. Lecture Notes in Computer Science, 2009, , 1034-1043.	1.0	12
100	Analysis of new variants of coalesced hashing. ACM Transactions on Database Systems, 1984, 9, 616-645.	1.5	11
101	Using Vapnikâ€Chervonenkis Dimension to Analyze the Testing Complexity of Program Segments. Information and Computation, 1996, 128, 87-108.	0.5	11
102	Modeling and optimizing I/O throughput of multiple disks on a bus (summary). , 1998, , .		11
103	Efficient Bundle Sorting. SIAM Journal on Computing, 2006, 36, 394-410.	0.8	11
104	A Practical Implementation of Compressed Suffix Arrays with Applications to Self-Indexing. , 2014, , .		11
105	Document Listing for Queries with Excluded Pattern. Lecture Notes in Computer Science, 2012, , 185-195.	1.0	11
106	A theory for memory-based learning. Machine Learning, 1994, 17, 143-167.	3.4	10
107	Dictionary selection using partial matching. Information Sciences, 1999, 119, 57-72.	4.0	10
108	Duality between Prefetching and Queued Writing with Parallel Disks. Lecture Notes in Computer Science, 2001, , 62-73.	1.0	10

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109	A theory for memory-based learning. , 1992, , .		9
110	Categorical range maxima queries. , 2014, , .		9
111	I/O-efficient algorithms and environments. ACM Computing Surveys, 1996, 28, 212.	16.1	9
112	A parallel algorithm for recognizing unordered depth-first search. Information Processing Letters, 1988, 28, 105-110.	0.4	8
113	Faster compressed dictionary matching. Theoretical Computer Science, 2013, 475, 113-119.	0.5	8
114	Compressed Dictionaries: Space Measures, Data Sets, and Experiments. Lecture Notes in Computer Science, 2006, , 158-169.	1.0	8
115	A simple and efficient parallel disk mergesort. , 1999, , .		8
116	US&R. ACM SIGPLAN Notices, 1984, 19, 168-176.	0.2	8
117	Deletion algorithms for hashing that preserve randomness. Journal of Algorithms, 1982, 3, 261-275.	0.9	7
118	Optimum algorithms for two random sampling problems. , 1983, , .		7
119	Analysis of Early-Insertion Standard Coalesced Hashing. SIAM Journal on Computing, 1983, 12, 667-676.	0.8	7
120	The Maximum Size of Dynamic Data Structures. SIAM Journal on Computing, 1991, 20, 807-823.	0.8	7
121	External Memory Algorithms. Lecture Notes in Computer Science, 1998, , 1-25.	1.0	7
122	Efficient Update of Indexes for Dynamically Changing Web Documents. World Wide Web, 2007, 10, 37-69.	2.7	7
123	I/O-Efficient Compressed Text Indexes: From Theory to Practice. , 2010, , .		7
124	Compressed Dictionary Matching with One Error. , 2011, , .		7
125	Cache-oblivious index for approximate string matching. Theoretical Computer Science, 2011, 412, 3579-3588.	0.5	7
126	External Memory Algorithms. Massive Computing, 2002, , 359-416.	0.4	7



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127	Compressed Text Indexing with Wildcards. Lecture Notes in Computer Science, 2011, , 267-277.	1.0	7
128	Editor's foreword special issue on parallel and distributed computing, Part I. Algorithmica, 1988, 3, 1-3.	1.0	6
129	A data structure for arc insertion and regular path finding. Annals of Mathematics and Artificial Intelligence, 1991, 3, 187-210.	0.9	6
130	Maximum queue size and hashing with lazy deletion. Algorithmica, 1991, 6, 597-619.	1.0	6
131	THE OBJECT COMPLEXITY MODEL FOR HIDDEN-SURFACE REMOVAL. International Journal of Computational Geometry and Applications, 1999, 09, 207-217.	0.3	6
132	Compressed text indexing with wildcards. Journal of Discrete Algorithms, 2013, 19, 23-29.	0.7	6
133	A Data-Aware FM-index. , 2015, , 10-23.		6
134	Compressing Dictionary Matching Index via Sparsification Technique. Algorithmica, 2015, 72, 515-538.	1.0	6
135	RefSelect: a reference sequence selection algorithm for planted (l, d) motif search. BMC Bioinformatics, 2016, 17, 266.	1.2	6
136	MSQ-Index: A Succinct Index for Fast Graph Similarity Search. IEEE Transactions on Knowledge and Data Engineering, 2021, 33, 2654-2668.	4.0	6
137	Optimal Color Range Reporting in One Dimension. Lecture Notes in Computer Science, 2013, , 743-754.	1.0	6
138	Output-sensitive generation of the perspective view of isothetic parallelepipeds. Algorithmica, 1992, 8, 257-283.	1.0	5
139	An efficient motif finding algorithm for large DNA data sets. , 2014, , .		5
140	Efficient Compression and Indexing for Highly Repetitive DNA Sequence Collections. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021, 18, 2394-2408.	1.9	5
141	Modeling and optimizing I/O throughput of multiple disks on a bus. Performance Evaluation Review, 1999, 27, 83-92.	0.4	4
142	Î·-RA: a parallel sparse index for genomic read alignment. BMC Genomics, 2011, 12, S7.	1.2	4
143	Faster Compressed Top-k Document Retrieval. , 2013, , .		4
144	Tuning the coalesced hashing method to obtain optimum performance. , 1980, , .		3

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145	Introduction - Sorting. IEEE Transactions on Computers, 1985, C-34, 293-295.	2.4	3
146	The power of duality for prefetching and sorting with parallel disks. , 2001, , .		3
147	CS2A: A Compressed Suffix Array-Based Method for Short Read Alignment. , 2016, , .		3
148	Online Data Structures in External Memory. Lecture Notes in Computer Science, 1999, , 352-366.	1.0	3
149	Nearly Tight Bounds on the Encoding Length of the Burrows-Wheeler Transform. , 2008, , .		3
150	A shared-memory scheme for coalesced hashing. Information Processing Letters, 1981, 13, 77-79.	0.4	2
151	Optimum Algorithms for a Model of Direct Chaining. SIAM Journal on Computing, 1985, 14, 490-499.	0.8	2
152	Fast Pattern-Matching via k-bit Filtering Based Text Decomposition. Computer Journal, 2012, 55, 62-68.	1.5	2
153	StemFinder: An efficient algorithm for searching motif stems over large alphabets. , 2013, , .		2
154	Arithmetic Coding for Data Compression. , 2016, , 145-150.		2
155	Deletion algorithms for hashing that preserve randomness. , 1981, , .		1
156	A SIMPLIFIED TECHNIQUE FOR HIDDEN-LINE ELIMINATION IN TERRAINS. International Journal of Computational Geometry and Applications, 1993, 03, 167-181.	0.3	1
157	Tight competitive ratios for parallel disk prefetching and caching. , 2008, , .		1
158	PSI-RA: A parallel sparse index for read alignment on genomes. , 2010, , .		1
159	Time- and space-efficient maximal repeat finding using the burrows-wheeler transform and wavelet trees. , 2010, , .		1
160	Compressed data structures with relevance. , 2012, , .		1
161	Reference sequence selection for motif searches. , 2015, , .		1
162	Practical Succinct Text Indexes in External Memory. , 2018, , .		1

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163	CIndex: compressed indexes for fast retrieval of FASTQ files. <i>Bioinformatics</i> , 2022, 38, 335-343.	1.8	1
164	Boosting Pattern Matching Performance via k-bit Filtering. <i>Lecture Notes in Electrical Engineering</i> , 2011, , 27-32.	0.3	1
165	External Sorting and Permuting. , 2015, , 1-10.		1
166	Editor's foreword special issue on parallel and distributed computing, Part II. <i>Algorithmica</i> , 1988, 3, 289-291.	1.0	0
167	A Theory for Memory-Based Learning. <i>Machine Learning</i> , 1994, 17, 143-167.	3.4	0
168	A Parallel Algorithm for Planar Orthogonal Grid Drawings. <i>Parallel Processing Letters</i> , 2000, 10, 141-150.	0.4	0
169	Practical High-order Entropy-compressed Text Self-indexing. <i>IEEE Transactions on Knowledge and Data Engineering</i> , 2021, , 1-1.	4.0	0
170	External Sorting and Permuting. , 2008, , 291-297.		0
171	External Sorting and Permuting. , 2016, , 708-715.		0