Raghu N Kacker

List of Publications by Year
in descending order

146 papers	5,570 citations	201674 27 h-index	106344 65 g-index
150 all docs	150 docs citations	150 times ranked	5170 citing authors

#	Article	IF	Citations
1	Random-effects model for meta-analysis of clinical trials: An update. Contemporary Clinical Trials, 2007, 28, 105-114.	1.8	1,801
2	Uncertainties in Scaling Factors for ab Initio Vibrational Frequencies. Journal of Physical Chemistry A, 2005, 109, 8430-8437.	2.5	431
3	IPOG: A General Strategy for T-Way Software Testing. , 2007, , .		244
4	Taguchi's Parameter Design: A Panel Discussion. Technometrics, 1992, 34, 127.	1.9	242
5	IPOG/IPOGâ€Ð: efficient test generation for multiâ€way combinatorial testing. Software Testing Verification and Reliability, 2008, 18, 125-148.	2.0	213
6	Taguchi's orthogonal arrays are classical designs of experiments. Journal of Research of the National Institute of Standards and Technology, 1991, 96, 577.	1.2	147
7	Practical Combinatorial Testing: Beyond Pairwise. IT Professional, 2008, 10, 19-23.	1.5	128
8	Refining the In-Parameter-Order Strategy for Constructing Covering Arrays. Journal of Research of the National Institute of Standards and Technology, 2008, 113, 287.	1.2	125
9	ACTS: A Combinatorial Test Generation Tool. , 2013, , .		121
10	Performance Measures Independent of Adjustment: An Explanation and Extension of Taguchi's Signal-to-Noise Ratios. Technometrics, 1987, 29, 253.	1.9	110
11	Combinatorial Software Testing. Computer, 2009, 42, 94-96.	1.1	93
12	Evolution of modern approaches to express uncertainty in measurement. Metrologia, 2007, 44, 513-529.	1.2	81
13	Uncertainties in scaling factors forab initiovibrational zero-point energies. Journal of Chemical Physics, 2009, 130, 114102.	3.0	74
14	Scaling Factors and Uncertainties for ab Initio Anharmonic Vibrational Frequencies. Journal of Chemical Theory and Computation, 2010, 6, 2822-2828.	5.3	64
15	An Efficient Algorithm for Constraint Handling in Combinatorial Test Generation. , 2013, , .		60
16	Combinatorial Methods for Event Sequence Testing. , 2012, , .		56
17	Combinatorial Testing of ACTS: A Case Study. , 2012, , .		52
18	Anharmonic Vibrational Frequency Calculations Are Not Worthwhile for Small Basis Sets. Journal of Chemical Theory and Computation, 2013, 9, 951-954.	5.3	47

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19	Combinatorial Testing. Advances in Computers, 2015, 99, 1-66.	1.6	46
20	A Survey of Binary Covering Arrays. Electronic Journal of Combinatorics, 2011, 18, .	0.4	41
21	Combinatorial testing for software: An adaptation of design of experiments. Measurement: Journal of the International Measurement Confederation, 2013, 46, 3745-3752.	5.0	39
22	Combining information from interlaboratory evaluations using a random effects model. Metrologia, 2004, 41, 132-136.	1.2	38
23	Combinatorial Coverage Measurement Concepts and Applications. , 2013, , .		38
24	Uncertainty associated with virtual measurements from computational quantum chemistry models. Metrologia, 2004, 41, 369-375.	1.2	37
25	Bayesian alternative to the ISO-GUM's use of the Welchâ€“Satterthwaite formula. Metrologia, 2006, 43, 1-11.	1.2	36
26	A combinatorial testing strategy for concurrent programs. Software Testing Verification and Reliability, 2007, 17, 207-225.	2.0	35
27	Identifying Failure-Inducing Combinations in a Combinatorial Test Set. , 2012, , .		35
28	Finding Bugs in Cryptographic Hash Function Implementations. IEEE Transactions on Reliability, 2018, 67, 870-884.	4.6	33
29	Coefficient of contribution to the combined standard uncertainty. Metrologia, 2006, 43, S189-S195.	1.2	31
30	Trapezoidal and triangular distributions for Type B evaluation of standard uncertainty. Metrologia, 2007, 44, 117-127.	1.2	30
31	A combinatorial approach to building navigation graphs for dynamic web applications. , 2009, , .		30
32	A dual representation simulated annealing algorithm for the bandwidth minimization problem on graphs. Information Sciences, 2015, 303, 33-49.	6.9	30
33	A Combinatorial Testing-Based Approach to Fault Localization. IEEE Transactions on Software Engineering, 2020, 46, 616-645.	5.6	29
34	Combinatorial Methods in Security Testing. Computer, 2016, 49, 80-83.	1.1	28
35	Constraint handling in combinatorial test generation using forbidden tuples. , 2015, , .		27
36	Introducing Combinatorial Testing in a Large Organization. Computer, 2015, 48, 64-72.	1.1	27

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37	An Interaction-Based Test Sequence Generation Approach for Testing Web Applications. , 2008, , .		26
38	Classical and Bayesian interpretation of the Birge test of consistency and its generalized version for correlated results from interlaboratory evaluations. Metrologia, 2008, 45, 257-264.	1.2	25
39	Applying Combinatorial Testing to the Siemens Suite. , 2013, , .		25
40	Comparison of ISO-GUM, draft GUM Supplement 1 and Bayesian statistics using simple linear calibration. Metrologia, 2006, 43, S167-S177.	1.2	24
41	An Empirical Comparison of Combinatorial and Random Testing. , 2014, , .		24
42	Fault localization based on failure-inducing combinations. , 2013, , .		23
43	CAGEN: A fast combinatorial test generation tool with support for constraints and higher-index arrays. , 2020, , .		22
44	Bayesian posterior predictivep-value of statistical consistency in interlaboratory evaluations. Metrologia, 2008, 45, 512-523.	1.2	21
45	How does combinatorial testing perform in the real world: an empirical study. Empirical Software Engineering, 2020, 25, 2661-2693.	3.9	20
46	A method for analyzing system state-space coverage within a t-wise testing framework. , 2010, , .		19
47	Assessing differences between results determined according to the guide to the expression of uncertainty in measurement. Journal of Research of the National Institute of Standards and Technology, 2010, 115, 453.	1.2	19
48	BEN: A combinatorial testing-based fault localization tool. , 2015, , .		18
49	A combinatorial approach to detecting buffer overflow vulnerabilities. , 2011, , .		17
50	Combinatorial Testing Metrics for Machine Learning. , 2021, , .		17
51	Measures, Uncertainties, and Significance Test in Operational ROC Analysis. Journal of Research of the National Institute of Standards and Technology, 2011, 116, 517.	1.2	17
52	Silicon single atom steps as AFM height standards. , 2001, , .		16
53	An Input Space Modeling Methodology for Combinatorial Testing. , 2013, , .		16
54	Combinatorial Test Generation for Software Product Lines Using Minimum Invalid Tuples. , 2014, , .		16

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55	Measurement uncertainty and its connection with true value in the GUM versus JCGM documents. Measurement: Journal of the International Measurement Confederation, 2018, 127, 525-532.	5.0	16
56	Combinatorial Methods for Explainable AI. , 2020, , .		15
57	Can Reducing Faults Prevent Vulnerabilities?. Computer, 2018, 51, 82-85.	1.1	14
58	Synthetic-perturbation tuning of MIMD programs. Journal of Supercomputing, 1994, 8, 5-28.	3.6	13
59	Measuring and specifying combinatorial coverage of test input configurations. Innovations in Systems and Software Engineering, 2016, 12, 249-261.	2.1	13
60	Input Space Coverage Matters. Computer, 2020, 53, 37-44.	1.1	13
61	Pseudo-Exhaustive Testing of Attribute Based Access Control Rules. , 2016, , .		12
62	The Relationship between Software Bug Type and Number of Factors Involved in Failures. , 2016, , .		12
63	It Doesnâ€™t Have to Be Like This: Cybersecurity Vulnerability Trends. IT Professional, 2017, 19, 66-70.	1.5	12
64	Combinatorial Testing. , 2010, , 196-208.		11
65	Synthetic-perturbation techniques for screening shared memory programs. Software - Practice and Experience, 1994, 24, 679-701.	3.6	10
66	A scalability test for parallel code. Software - Practice and Experience, 1995, 25, 1299-1314.	3.6	10
67	Using combinatorial testing to build navigation graphs for dynamic web applications. Software Testing Verification and Reliability, 2016, 26, 318-346.	2.0	10
68	Applying Combinatorial Testing to Data Mining Algorithms. , 2017, , .		10
69	A Study on the Reuse of Plastic Concrete Using Extended Set-Retarding Admixtures. Journal of Research of the National Institute of Standards and Technology, 1995, 100, 575.	1.2	10
70	Effect of Composition on Superconducting Properties in the System Ba-Y-Gd-Cu-O. Journal of the American Ceramic Society, 1992, 75, 2390-2394.	3.8	9
71	Rectangular distribution whose end points are not exactly known: curvilinear trapezoidal distribution. Metrologia, 2010, 47, 120-126.	1.2	9
72	Bootstrap Variability Studies in ROC Analysis on Large Datasets. Communications in Statistics Part B: Simulation and Computation, 2014, 43, 225-236.	1.2	9

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73	Improving MC/DC and Fault Detection Strength Using Combinatorial Testing. , 2017, , .		9
74	A Combinatorial Approach to Testing Deep Neural Network-based Autonomous Driving Systems. , 2021, , .		9
75	Repeatability and reproducibility standard deviations in the measurement of trace moisture generated using permeation tubes. Journal of Research of the National Institute of Standards and Technology, 2003, 108, 235.	1.2	8
76	Introducing Combinatorial Testing in a Large Organization: Pilot Project Experience Report. , 2014, , .		8
77	Improving IPOG's vertical growth based on a graph coloring scheme. , 2015, , .		8
78	Evaluating the Effectiveness of BEN in Localizing Different Types of Software Fault. , 2016, , .		8
79	Validation of Nonparametric Two-sample Bootstrap in ROC Analysis on Large Datasets. Communications in Statistics Part B: Simulation and Computation, 2016, 45, 1689-1703.	1.2	8
80	Combinatorial and MC/DC Coverage Levels of Random Testing. , 2017, , .		8
81	An Analysis of Vulnerability Trends, 2008-2016. , 2017, , .		8
82	Systematic Testing of Post-Quantum Cryptographic Implementations Using Metamorphic Testing. , 2019, , .		8
83	A Combinatorial Approach to Fairness Testing of Machine Learning Models. , 2022, , .		8
84	Utilizing Combinatorial Testing on Discrete Event Simulation Models for Sustainable Manufacturing. , 2009, , .		7
85	CCM: A Tool for Measuring Combinatorial Coverage of System State Space. , 2013, , .		7
86	Variance gradients and uncertainty budgets for nonlinear measurement functions with independent inputs. Measurement Science and Technology, 2013, 24, 025002.	2.6	7
87	Tower of covering arrays. Discrete Applied Mathematics, 2015, 190-191, 141-146.	0.9	7
88	The Impact of Data Dependence on Speaker Recognition Evaluation. IEEE/ACM Transactions on Audio Speech and Language Processing, 2017, 25, 5-18.	5.8	7
89	Applying Combinatorial Testing to Large-Scale Data Processing at Adobe. , 2019, , .		7
90	An Approach to T-Way Test Sequence Generation With Constraints. , 2019, , .		7

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91	Rectangular distribution whose width is not exactly known: isocurvilinear trapezoidal distribution. Metrologia, 2009, 46, 254-260.	1.2	6
92	Implementing and Managing Policy Rules in Attribute Based Access Control. , 2015, , .		6
93	Probability distributions and coverage probability in GUM, JCGM documents, and statistical inference. Measurement: Journal of the International Measurement Confederation, 2015, 65, 61-70.	5.0	6
94	Estimating t-Way Fault Profile Evolution During Testing. , 2016, , .		6
95	Effectiveness of dataset reduction in testing machine learning algorithms. , 2020, , .		6
96	A Combinatorial Approach to Explaining Image Classifiers. , 2021, , .		6
97	Combining results from multiple evaluations of the same measurand. Journal of Research of the National Institute of Standards and Technology, 2011, 116, 809.	1.2	6
98	Combinatorial methods for testing Internet of Things smart home systems. Software Testing Verification and Reliability, 2022, 32, .	2.0	6
99	CT-IoT: a combinatorial testing-based path selection framework for effective IoT testing. Empirical Software Engineering, 2022, 27, 1.	3.9	6
100	Response to â€œComment on â€˜Uncertainties in scaling factors for ab initio vibrational zero-point energiesâ€™ and â€˜Calibration sets and the accuracy of vibrational scaling factors: A case study with the X3LYP hybrid functionalâ€™â€•[J. Chem. Phys. 134, 167101 (2011)]. Journal of Chemical Physics, 2011, 134, 167102.	3.0	5
101	Uncertainty budgeting for range calibration. Measurement: Journal of the International Measurement Confederation, 2012, 45, 1661-1669.	5.0	5
102	Removing divergence of JCGM documents from the GUM (1993) and repairing other defects. Measurement: Journal of the International Measurement Confederation, 2016, 88, 194-201.	5.0	5
103	Optimizing IPOG's Vertical Growth with Constraints Based on Hypergraph Coloring. , 2017, , .		5
104	Combinatorial Testing of Full Text Search in Web Applications. , 2017, , .		5
105	Browser fingerprinting using combinatorial sequence testing. , 2019, , .		5
106	True value, error, and measurement uncertainty: two views. Accreditation and Quality Assurance, 0, , .	0.8	5
107	Significance test in operational ROC analysis. Proceedings of SPIE, 2010, , .	0.8	4
108	Data dependency on measurement uncertainties in speaker recognition evaluation. Proceedings of SPIE, 2012, , .	0.8	4

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109	Equivalence class verification and oracle-free testing using two-layer covering arrays. , 2015, , .		4
110	TLS Cipher Suites Recommendations: A Combinatorial Coverage Measurement Approach. , 2016, , .		4
111	A novel measure and significance testing in data analysis of cell image segmentation. BMC Bioinformatics, 2017, 18, 168.	2.6	4
112	Understanding and Fixing Complex Faults in Embedded Cyberphysical Systems. Computer, 2021, 54, 49-60.	1.1	4
113	On quantity, value, unit, and other terms in the JCGM International Vocabulary of Metrology. Measurement Science and Technology, 2021, 32, 125015.	2.6	4
114	An efficient experiment to study superconducting ceramics. Communications in Statistics - Theory and Methods, 1991, 20, 441-456.	1.0	3
115	Translating Radiometric Requirements for Satellite Sensors to Match International Standards. Journal of Research of the National Institute of Standards and Technology, 2014, 119, 272.	1.2	3
116	MCDC-Star: A White-Box Based Automated Test Generation for High MC/DC Coverage. , 2018, , .		3
117	Monte Carlo studies of bootstrap variability in ROC analysis with data dependency. Communications in Statistics Part B: Simulation and Computation, 2019, 48, 317-333.	1.2	3
118	Combination Frequency Differencing for Identifying Design Weaknesses in Physical Unclonable Functions. , 2022, , .		3
119	Significance test with data dependency in speaker recognition evaluation. , 2013, , .		2
120	Estimating Fault Detection Effectiveness. , 2014, , .		2
121	Measuring Combinatorial Coverage at Adobe. , 2019, , .		2
122	Factorials Experiments, Covering Arrays, and Combinatorial Testing. Mathematics in Computer Science, 2021, 15, 715-739.	0.4	2
123	Combinatorial Test Generation for Multiple Input Models With Shared Parameters. IEEE Transactions on Software Engineering, 2022, 48, 2606-2628.	5.6	2
124	A TEST OF LINEARITY USING COVERING ARRAYS FOR EVALUATING UNCERTAINTY IN MEASUREMENT. Series on Advances in Mathematics for Applied Sciences, 2009, , 195-203.	0.1	2
125	Uncertainties of measures in speaker recognition evaluation. Proceedings of SPIE, 2011, , .	0.8	1
126	Derivation of isosceles trapezoidal distributions. Measurement Science and Technology, 2011, 22, 015106.	2.6	1

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127	Obtaining a Trapezoidal Distribution. Communications in Statistics - Theory and Methods, 2015, 44, 4586-4599.	1.0	1
128	A Model for T-Way Fault Profile Evolution during Testing. , 2017, , .		1
129	Measuring the Adequacy of a Test Suite With Respect to a Modeled Test Space. IEEE Software, 2022, 39, 62-67.	1.8	1
130	Combinatorially XSSing Web Application Firewalls. , 2021, , .		1
131	An exploration of combinatorial testing-based approaches to fault localization for explainable AI. Annals of Mathematics and Artificial Intelligence, 2022, 90, 951-964.	1.3	1
132	A survey of tables of probability distributions. Journal of Research of the National Institute of Standards and Technology, 2005, 110, 67.	1.2	1
133	ONLY NON-INFORMATIVE BAYESIAN PRIOR DISTRIBUTIONS AGREE WITH THE GUM TYPE A EVALUATIONS OF INPUT QUANTITIES. Series on Advances in Mathematics for Applied Sciences, 2012, , 216-223.	0.1	1
134	Knowledge Extraction for Cryptographic Algorithm Validation Test Vectors by Means of Combinatorial Coverage Measurement. Lecture Notes in Computer Science, 2019, , 195-208.	1.3	1
135	Vulnerability trends in web servers and browsers. , 2020, , .		1
136	Developing multithreaded techniques and improved constraint handling for the tool CAgen. , 2022, , .		1
137	Using synthetic perturbations and statistical screening to assay shared-memory programs. Information Processing Letters, 1995, 54, 147-153.	0.6	0
138	Online control using integrated moving average model for manufacturing errors. International Journal of Production Research, 2002, 40, 4131-4146.	7.5	0
139	Comments on â€˜Bayesian evaluation of comparison dataâ€™. Metrologia, 2007, 44, L57-L61.	1.2	0
140	Combinatorial security testing course. , 2018, , .		0
141	True value and uncertainty in the GUM. Journal of Physics: Conference Series, 2018, 1065, 212003.	0.4	0
142	A Method-Level Test Generation Framework for Debugging Big Data Applications. , 2018, , .		0
143	Using Parameter Mapping to Avoid Forbidden Tuples in a Covering Array. , 2019, , .		0
144	Towards correction of the JCGM international vocabulary of metrology. Measurement: Sensors, 2021, 18, 100063.	1.7	0

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145	A statistical analysis of steel truss temperature data recorded during fire resistance tests. , 2011, , 960-965.		0
146	Systematic Software Testing of Critical Embedded Digital Devices in Nuclear Power Applications. , 2020, , .		0