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	Measuring the Adequacy of a Test Suite With Respect to a Modeled Test Space. IEEE Software, 2022, 39, 62-67.	1.8	1
2	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
3	Combinatorial Test Generation for Multiple Input Models With Shared Parameters. IEEE Transactions on Software Engineering, 2022, 48, 2606-2628.	5.6	2
4	Combinatorial methods for testing Internet of Things smart home systems. Software Testing Verification and Reliability, 2022, 32, .	2.0	6
5	CT-IoT: a combinatorial testing-based path selection framework for effective IoT testing. Empirical Software Engineering, 2022, 27, 1.	3.9	6
6	A Combinatorial Approach to Fairness Testing of Machine Learning Models. , 2022, , .		8
7	Combination Frequency Differencing for Identifying Design Weaknesses in Physical Unclonable Functions. , 2022, , .		3
8	Developing multithreaded techniques and improved constraint handling for the tool CAgen. , 2022, , .		1
9	Understanding and Fixing Complex Faults in Embedded Cyberphysical Systems. Computer, 2021, 54, 49-60.	1.1	4
10	Factorials Experiments, Covering Arrays, and Combinatorial Testing. Mathematics in Computer Science, 2021, 15, 715-739.	0.4	2
11	Combinatorial Testing Metrics for Machine Learning. , 2021, , .		17
12	Combinatorially XSSing Web Application Firewalls. , 2021, , .		1
13	A Combinatorial Approach to Explaining Image Classifiers. , 2021, , .		6
14	A Combinatorial Approach to Testing Deep Neural Network-based Autonomous Driving Systems. , 2021, , .		9
15	Towards correction of the JCGM international vocabulary of metrology. Measurement: Sensors, 2021, 18, 100063.	1.7	0
16	On quantity, value, unit, and other terms in the JCGM International Vocabulary of Metrology. Measurement Science and Technology, 2021, 32, 125015.	2.6	4
17	A Combinatorial Testing-Based Approach to Fault Localization. IEEE Transactions on Software Engineering, 2020, 46, 616-645.	5.6	29
18	CAGEN: A fast combinatorial test generation tool with support for constraints and higher-index arrays. , 2020, , .		22

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19	Effectiveness of dataset reduction in testing machine learning algorithms. , 2020, , .		6
20	Combinatorial Methods for Explainable AI. , 2020, , .		15
21	Input Space Coverage Matters. Computer, 2020, 53, 37-44.	1.1	13
22	How does combinatorial testing perform in the real world: an empirical study. Empirical Software Engineering, 2020, 25, 2661-2693.	3.9	20
23	Vulnerability trends in web servers and browsers. , 2020, , .		1
24	Systematic Software Testing of Critical Embedded Digital Devices in Nuclear Power Applications. , 2020, , .		0
25	Using Parameter Mapping to Avoid Forbidden Tuples in a Covering Array. , 2019, , .		0
26	Systematic Testing of Post-Quantum Cryptographic Implementations Using Metamorphic Testing. , 2019, , .		8
27	Applying Combinatorial Testing to Large-Scale Data Processing at Adobe. , 2019, , .		7
28	An Approach to T-Way Test Sequence Generation With Constraints. , 2019, , .		7
29	Measuring Combinatorial Coverage at Adobe. , 2019, , .		2
30	Browser fingerprinting using combinatorial sequence testing. , 2019, , .		5
31	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
32	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
33	Combinatorial security testing course. , 2018, , .		0
34	MCDC-Star: A White-Box Based Automated Test Generation for High MC/DC Coverage. , 2018, , .		3
35	True value and uncertainty in the GUM. Journal of Physics: Conference Series, 2018, 1065, 212003.	0.4	0
36	A Method-Level Test Generation Framework for Debugging Big Data Applications. , 2018, , .		0

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37	Finding Bugs in Cryptographic Hash Function Implementations. IEEE Transactions on Reliability, 2018, 67, 870-884.	4.6	33
38	Can Reducing Faults Prevent Vulnerabilities?. Computer, 2018, 51, 82-85.	1.1	14
39	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
40	A Model for T-Way Fault Profile Evolution during Testing. , 2017, , .		1
41	Optimizing IPOG's Vertical Growth with Constraints Based on Hypergraph Coloring. , 2017, , .		5
42	Applying Combinatorial Testing to Data Mining Algorithms. , 2017, , .		10
43	Combinatorial and MC/DC Coverage Levels of Random Testing. , 2017, , .		8
44	Combinatorial Testing of Full Text Search in Web Applications. , 2017, , .		5
45	An Analysis of Vulnerability Trends, 2008-2016. , 2017, , .		8
46	A novel measure and significance testing in data analysis of cell image segmentation. BMC Bioinformatics, 2017, 18, 168.	2.6	4
47	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
48	It Doesnâ€™t Have to Be Like This: Cybersecurity Vulnerability Trends. IT Professional, 2017, 19, 66-70.	1.5	12
49	Improving MC/DC and Fault Detection Strength Using Combinatorial Testing. , 2017, , .		9
50	Using combinatorial testing to build navigation graphs for dynamic web applications. Software Testing Verification and Reliability, 2016, 26, 318-346.	2.0	10
51	TLS Cipher Suites Recommendations: A Combinatorial Coverage Measurement Approach. , 2016, , .		4
52	Pseudo-Exhaustive Testing of Attribute Based Access Control Rules. , 2016, , .		12
53	The Relationship between Software Bug Type and Number of Factors Involved in Failures. , 2016, , .		12
54	Measuring and specifying combinatorial coverage of test input configurations. Innovations in Systems and Software Engineering, 2016, 12, 249-261.	2.1	13

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55	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
56	Estimating t-Way Fault Profile Evolution During Testing. , 2016, , .		6
57	Combinatorial Methods in Security Testing. Computer, 2016, 49, 80-83.	1.1	28
58	Evaluating the Effectiveness of BEN in Localizing Different Types of Software Fault. , 2016, , .		8
59	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
60	Improving IPOG's vertical growth based on a graph coloring scheme. , 2015, , .		8
61	Constraint handling in combinatorial test generation using forbidden tuples. , 2015, , .		27
62	Obtaining a Trapezoidal Distribution. Communications in Statistics - Theory and Methods, 2015, 44, 4586-4599.	1.0	1
63	Implementing and Managing Policy Rules in Attribute Based Access Control. , 2015, , .		6
64	A dual representation simulated annealing algorithm for the bandwidth minimization problem on graphs. Information Sciences, 2015, 303, 33-49.	6.9	30
65	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
66	Tower of covering arrays. Discrete Applied Mathematics, 2015, 190-191, 141-146.	0.9	7
67	BEN: A combinatorial testing-based fault localization tool. , 2015, , .		18
68	Equivalence class verification and oracle-free testing using two-layer covering arrays. , 2015, , .		4
69	Introducing Combinatorial Testing in a Large Organization. Computer, 2015, 48, 64-72.	1.1	27
70	Combinatorial Testing. Advances in Computers, 2015, 99, 1-66.	1.6	46
71	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
72	Estimating Fault Detection Effectiveness. , 2014, , .		2

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73	An Empirical Comparison of Combinatorial and Random Testing. , 2014, , .		24
74	Combinatorial Test Generation for Software Product Lines Using Minimum Invalid Tuples. , 2014, , .		16
75	Introducing Combinatorial Testing in a Large Organization: Pilot Project Experience Report. , 2014, , .		8
76	Bootstrap Variability Studies in ROC Analysis on Large Datasets. Communications in Statistics Part B: Simulation and Computation, 2014, 43, 225-236.	1.2	9
77	Combinatorial testing for software: An adaptation of design of experiments. Measurement: Journal of the International Measurement Confederation, 2013, 46, 3745-3752.	5.0	39
78	CCM: A Tool for Measuring Combinatorial Coverage of System State Space. , 2013, , .		7
79	An Efficient Algorithm for Constraint Handling in Combinatorial Test Generation. , 2013, , .		60
80	Combinatorial Coverage Measurement Concepts and Applications. , 2013, , .		38
81	ACTS: A Combinatorial Test Generation Tool. , 2013, , .		121
82	Applying Combinatorial Testing to the Siemens Suite. , 2013, , .		25
83	Anharmonic Vibrational Frequency Calculations Are Not Worthwhile for Small Basis Sets. Journal of Chemical Theory and Computation, 2013, 9, 951-954.	5.3	47
84	Significance test with data dependency in speaker recognition evaluation. , 2013, , .		2
85	Variance gradients and uncertainty budgets for nonlinear measurement functions with independent inputs. Measurement Science and Technology, 2013, 24, 025002.	2.6	7
86	An Input Space Modeling Methodology for Combinatorial Testing. , 2013, , .		16
87	Fault localization based on failure-inducing combinations. , 2013, , .		23
88	Data dependency on measurement uncertainties in speaker recognition evaluation. Proceedings of SPIE, 2012, , .	0.8	4
89	Identifying Failure-Inducing Combinations in a Combinatorial Test Set. , 2012, , .		35
90	Combinatorial Testing of ACTS: A Case Study. , 2012, , .		52

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91	Combinatorial Methods for Event Sequence Testing. , 2012, , .		56
92	Uncertainty budgeting for range calibration. Measurement: Journal of the International Measurement Confederation, 2012, 45, 1661-1669.	5.0	5
93	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
94	Uncertainties of measures in speaker recognition evaluation. Proceedings of SPIE, 2011, , .	0.8	1
95	A combinatorial approach to detecting buffer overflow vulnerabilities. , 2011, , .		17
96	Derivation of isosceles trapezoidal distributions. Measurement Science and Technology, 2011, 22, 015106.	2.6	1
97	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
98	A Survey of Binary Covering Arrays. Electronic Journal of Combinatorics, 2011, 18, .	0.4	41
99	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
100	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
101	A statistical analysis of steel truss temperature data recorded during fire resistance tests. , 2011, , 960-965.		0
102	Significance test in operational ROC analysis. Proceedings of SPIE, 2010, , .	0.8	4
103	Rectangular distribution whose end points are not exactly known: curvilinear trapezoidal distribution. Metrologia, 2010, 47, 120-126.	1.2	9
104	Scaling Factors and Uncertainties for ab Initio Anharmonic Vibrational Frequencies. Journal of Chemical Theory and Computation, 2010, 6, 2822-2828.	5.3	64
105	A method for analyzing system state-space coverage within a t-wise testing framework. , 2010, , .		19
106	Combinatorial Testing. , 2010, , 196-208.		11
107	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
108	Rectangular distribution whose width is not exactly known: isocurvilinear trapezoidal distribution. Metrologia, 2009, 46, 254-260.	1.2	6

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109	Utilizing Combinatorial Testing on Discrete Event Simulation Models for Sustainable Manufacturing. , 2009, , .		7
110	Uncertainties in scaling factors forab initiovibrational zero-point energies. Journal of Chemical Physics, 2009, 130, 114102.	3.0	74
111	Combinatorial Software Testing. Computer, 2009, 42, 94-96.	1.1	93
112	A combinatorial approach to building navigation graphs for dynamic web applications. , 2009, , .		30
113	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
114	IPOG/IPOGâ€Ð: efficient test generation for multiâ€way combinatorial testing. Software Testing Verification and Reliability, 2008, 18, 125-148.	2.0	213
115	Practical Combinatorial Testing: Beyond Pairwise. IT Professional, 2008, 10, 19-23.	1.5	128
116	An Interaction-Based Test Sequence Generation Approach for Testing Web Applications. , 2008, , .		26
117	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
118	Bayesian posterior predictivep-value of statistical consistency in interlaboratory evaluations. Metrologia, 2008, 45, 512-523.	1.2	21
119	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
120	IPOG: A General Strategy for T-Way Software Testing. , 2007, , .		244
121	Random-effects model for meta-analysis of clinical trials: An update. Contemporary Clinical Trials, 2007, 28, 105-114.	1.8	1,801
122	Evolution of modern approaches to express uncertainty in measurement. Metrologia, 2007, 44, 513-529.	1.2	81
123	A combinatorial testing strategy for concurrent programs. Software Testing Verification and Reliability, 2007, 17, 207-225.	2.0	35
124	Comments on â€˜Bayesian evaluation of comparison dataâ€™. Metrologia, 2007, 44, L57-L61.	1.2	0
125	Trapezoidal and triangular distributions for Type B evaluation of standard uncertainty. Metrologia, 2007, 44, 117-127.	1.2	30
126	Bayesian alternative to the ISO-GUM's use of the Welchâ€“Satterthwaite formula. Metrologia, 2006, 43, 1-11.	1.2	36

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127	Coefficient of contribution to the combined standard uncertainty. Metrologia, 2006, 43, S189-S195.	1.2	31
128	Comparison of ISO-GUM, draft GUM Supplement 1 and Bayesian statistics using simple linear calibration. Metrologia, 2006, 43, S167-S177.	1.2	24
129	Uncertainties in Scaling Factors for ab Initio Vibrational Frequencies. Journal of Physical Chemistry A, 2005, 109, 8430-8437.	2.5	431
130	A survey of tables of probability distributions. Journal of Research of the National Institute of Standards and Technology, 2005, 110, 67.	1.2	1
131	Combining information from interlaboratory evaluations using a random effects model. Metrologia, 2004, 41, 132-136.	1.2	38
132	Uncertainty associated with virtual measurements from computational quantum chemistry models. Metrologia, 2004, 41, 369-375.	1.2	37
133	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
134	Online control using integrated moving average model for manufacturing errors. International Journal of Production Research, 2002, 40, 4131-4146.	7.5	0
135	Silicon single atom steps as AFM height standards. , 2001, , .		16
136	Using synthetic perturbations and statistical screening to assay shared-memory programs. Information Processing Letters, 1995, 54, 147-153.	0.6	0
137	A scalability test for parallel code. Software - Practice and Experience, 1995, 25, 1299-1314.	3.6	10
138	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
139	Synthetic-perturbation tuning of MIMD programs. Journal of Supercomputing, 1994, 8, 5-28.	3.6	13
140	Synthetic-perturbation techniques for screening shared memory programs. Software - Practice and Experience, 1994, 24, 679-701.	3.6	10
141	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
142	Taguchi's Parameter Design: A Panel Discussion. Technometrics, 1992, 34, 127.	1.9	242
143	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
144	An efficient experiment to study superconducting ceramics. Communications in Statistics - Theory and Methods, 1991, 20, 441-456.	1.0	3

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145	Performance Measures Independent of Adjustment: An Explanation and Extension of Taguchi's Signal-to-Noise Ratios. Technometrics, 1987, 29, 253.	1.9	110
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