Travis S Humble

List of Publications by Year
in descending order

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82 papers	5,933 citations	257450 24 h-index	144013 57 g-index
84 all docs	84 docs citations	84 times ranked	5329 citing authors

#	Article	IF	Citations
1	Training a Quantum Annealing Based Restricted Boltzmann Machine on Cybersecurity Data. IEEE Transactions on Emerging Topics in Computational Intelligence, 2022, 6, 417-428.	4.9	18
2	Characterizing the Reproducibility of Noisy Quantum Circuits. Entropy, 2022, 24, 244.	2.2	7
3	Multi-angle quantum approximate optimization algorithm. Scientific Reports, 2022, 12, 6781.	3.3	27
4	Quantum Circuit Designs of Integer Division Optimizing T-count and T-depth. IEEE Transactions on Emerging Topics in Computing, 2021, 9, 1045-1056.	4.6	33
5	Benchmarking Quantum Annealing Controls with Portfolio Optimization. Physical Review Applied, 2021, 15, .	3.8	42
6	Lower bounds on circuit depth of the quantum approximate optimization algorithm. Quantum Information Processing, 2021, 20, 1.	2.2	20
7	Composable Programming of Hybrid Workflows for Quantum Simulation. , 2021, , .		3
8	Quantum Solvers for Plane-Wave Hamiltonians: Abridging Virtual Spaces Through the Optimization of Pairwise Correlations. Frontiers in Chemistry, 2021, 9, 603019.	3.6	10
9	Modeling noisy quantum circuits using experimental characterization. Physical Review A, 2021, 103, .	2.5	14
10	Benchmarking Quantum Chemistry Computations with Variational, Imaginary Time Evolution, and Krylov Space Solver Algorithms. Advanced Quantum Technologies, 2021, 4, 2100012.	3.9	21
11	Training Restricted Boltzmann Machines With a D-Wave Quantum Annealer. Frontiers in Physics, 2021, 9, .	2.1	19
12	A Review of Machine Learning Classification Using Quantum Annealing for Real-World Applications. SN Computer Science, 2021, 2, 1.	3.6	24
13	Reproducibility in Quantum Computing. , 2021, , .		2
14	Quantum Computers for High-Performance Computing. IEEE Micro, 2021, 41, 15-23.	1.8	18
15	Particle track classification using quantum associative memory. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1010, 165557.	1.6	5
16	Impact of graph structures for QAOA on MaxCut. Quantum Information Processing, 2021, 20, 1.	2.2	18
17	Globally Optimizing QAOA Circuit Depth for Constrained Optimization Problems. Algorithms, 2021, 14, 294.	2.1	8
18	Prime factorization using quantum variational imaginary time evolution. Scientific Reports, 2021, 11, 20835.	3.3	6

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19	Parametrized Hamiltonian simulation using quantum optimal control. Physical Review A, 2021, 104, .	2.5	3
20	Efficient Quantum Gate Discovery with Optimal Control. , 2021, , .		2
21	Numerical Simulations of Noisy Variational Quantum Eigensolver Ansatz Circuits. , 2021, , .		3
22	Empirical performance bounds for quantum approximate optimization. Quantum Information Processing, 2021, 20, 1.	2.2	26
23	Scalable Programming Workflows for Validation of Quantum Computers. , 2021, , .		2
24	Quantum computing based hybrid solution strategies for large-scale discrete-continuous optimization problems. Computers and Chemical Engineering, 2020, 132, 106630.	3.8	91
25	IEEE Quantum Week 2020 Workshop Abstracts. , 2020, , .		0
26	Benchmarking Adaptive Variational Quantum Eigensolvers. Frontiers in Chemistry, 2020, 8, 606863.	3.6	28
27	Establishing the quantum supremacy frontier with a 281 Pflop/s simulation. Quantum Science and Technology, 2020, 5, 034003.	5.8	92
28	XACC: a system-level software infrastructure for heterogeneous quantumâ€“classical computing. Quantum Science and Technology, 2020, 5, 024002.	5.8	68
29	Simulating the Shastry-Sutherland Ising Model Using Quantum Annealing. PRX Quantum, 2020, 1, .	9.2	27
30	Characterizing the Stability of NISQ Devices. , 2020, , .		6
31	Accelerating Scientific Computing in the Post-Mooreâ€™s Era. ACM Transactions on Parallel Computing, 2020, 7, 1-31.	1.4	11
32	Quantum annealing for systems of polynomial equations. Scientific Reports, 2019, 9, 10258.	3.3	23
33	Application of Quantum Annealing to Nurse Scheduling Problem. Scientific Reports, 2019, 9, 12837.	3.3	72
34	Quantum Computing Circuits and Devices. IEEE Design and Test, 2019, 36, 69-94.	1.2	42
35	Quantum chemistry as a benchmark for near-term quantum computers. Npj Quantum Information, 2019, 5, .	6.7	138
36	Quantum supremacy using a programmable superconducting processor. Nature, 2019, 574, 505-510.	27.8	4,148

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37	OpenFlow arbitrated programmable network channels for managing quantum metadata. Journal of Defense Modeling and Simulation, 2019, 16, 67-77.	1.7	4
38	Function Maximization with Dynamic Quantum Search. Lecture Notes in Computer Science, 2019, , 86-95.	1.3	0
39	Benchmarking treewidth as a practical component of tensor network simulations. PLoS ONE, 2018, 13, e0207827.	2.5	9
40	Validating quantum-classical programming models with tensor network simulations. PLoS ONE, 2018, 13, e0206704.	2.5	30
41	Hybrid Programming for Near-Term Quantum Computing Systems. , 2018, , .		18
42	Compiling Adiabatic Quantum Programs. , 2018, , .		0
43	Quantum Annealing for Prime Factorization. Scientific Reports, 2018, 8, 17667.	3.3	98
44	Quantum games: a review of the history, current state, and interpretation. Quantum Information Processing, 2018, 17, 1.	2.2	76
45	Optimizing adiabatic quantum program compilation using a graph-theoretic framework. Quantum Information Processing, 2018, 17, 1.	2.2	31
46	Directed Atom-by-Atom Assembly of Dopants in Silicon. ACS Nano, 2018, 12, 5873-5879.	14.6	62
47	Superdense coding for quantum networking environments. , 2018, , .		1
48	Demonstration of provably secure quantum key distribution (QKD). , 2018, , .		1
49	Software-defined quantum network switching. , 2018, , .		5
50	Superdense Coding over Optical Fiber Links with Complete Bell-State Measurements. Physical Review Letters, 2017, 118, 050501.	7.8	74
51	High-Performance Computing with Quantum Processing Units. ACM Journal on Emerging Technologies in Computing Systems, 2017, 13, 1-13.	2.3	37
52	Software-defined network abstractions and configuration interfaces for building programmable quantum networks. Proceedings of SPIE, 2017, , .	0.8	0
53	Identifying the minor set cover of dense connected bipartite graphs via random matching edge sets. Quantum Information Processing, 2017, 16, 1.	2.2	16
54	Unbiased simulation of near-Clifford quantum circuits. Physical Review A, 2017, 95, .	2.5	29

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55	Quantum Accelerators for High-Performance Computing Systems. , 2017, , .		10
56	Quantum Circuit Designs of Integer Division Optimizing T-Count and T-Depth. , 2017, , .		14
57	Recall Performance for Content-Addressable Memory Using Adiabatic Quantum Optimization. Entropy, 2017, 19, 500.	2.2	5
58	Superdense Coding Interleaved with Forward Error Correction. Quantum Measurements and Quantum Metrology, 2016, 3, .	3.3	8
59	Software systems for high-performance quantum computing. , 2016, , .		1
60	Tamper-Indicating Quantum Seal. Physical Review Applied, 2016, 5, .	3.8	19
61	Performance Models for Split-Execution Computing Systems. , 2016, , .		4
62	A computational workflow for designing silicon donor qubits. Nanotechnology, 2016, 27, 424002.	2.6	3
63	Programmable multi-node quantum network design and simulation. Proceedings of SPIE, 2016, , .	0.8	6
64	Adiabatic quantum optimization for associative memory recall. Frontiers in Physics, 2014, 2, .	2.1	16
65	Software-defined quantum communication systems. Optical Engineering, 2014, 53, 086103.	1.0	13
66	Adiabatic quantum programming: minor embedding with hard faults. Quantum Information Processing, 2014, 13, 709-729.	2.2	69
67	Quantum security for the physical layer. , 2013, 51, 56-62.		29
68	Quantum statistical testing of a QRNG algorithm. , 2013, , .		0
69	FPGA-based gating and logic for multichannel single photon counting. Journal of Modern Optics, 2012, 59, 1500-1511.	1.3	14
70	Simultaneous teleportation of multiple single-photon degrees of freedom. Journal of Modern Optics, 2011, 58, 288-298.	1.3	5
71	Spectral and spread-spectral teleportation. Physical Review A, 2010, 81, .	2.5	12
72	Multi-FFT Vectorization for the Cell Multicore Processor. , 2010, , .		1

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73	Implementation/acceleration of vectorized acoustic source localization algorithms on the CELL multi-core processor. , 2010, , .		0
74	Effects of spectral entanglement in polarization-entanglement swapping and type-I fusion gates. Physical Review A, 2008, 77, .	2.5	29
75	Spectral effects in quantum teleportation. Physical Review A, 2007, 75, .	2.5	33
76	Adjunct Spectral Entanglement in Entanglement Swapping and Type-I Fusion. , 2007, , .		0
77	Nonlinear Wave-Packet Interferometry and Molecular State Reconstruction in a Vibrating and Rotating Diatomic Moleculeâ€. Journal of Physical Chemistry B, 2006, 110, 18879-18892.	2.6	25
78	Wave packet interferometry for short-time electronic energy transfer: Multidimensional optical spectroscopy in the time domain. Journal of Chemical Physics, 2003, 118, 46-61.	3.0	32
79	Molecular Wavepacket Decomposition by Nonlinear Interferometry. Bulletin of the Chemical Society of Japan, 2002, 75, 1135-1136.	3.2	2
80	A theoretical study of intra-molecular vibrational effects on fractionation factors for molecules containing intra-molecular low-barrier hydrogen bonds. Chemical Physics Letters, 1998, 289, 90-96.	2.6	4
81	Benchmarking embedded chain breaking in quantum annealing. Quantum Science and Technology, 0, , .	5.8	6
82	QuaSiMo: A composable library to program hybrid workflows for quantum simulation. IET Quantum Communication, 0, , .	3.8	0