

Vivek K Patel

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

110
papers

3,152
citations

31
h-index

54
g-index

119
ext. papers

3,923
ext. citations

3.5
avg, IF

6.4
L-index

#	Paper	IF	Citations
110	An elitist teaching-learning-based optimization algorithm for solving complex constrained optimization problems. <i>International Journal of Industrial Engineering Computations</i> , 2012 , 3, 535-560	1.7	333
109	Multi-objective optimization of heat exchangers using a modified teaching-learning-based optimization algorithm. <i>Applied Mathematical Modelling</i> , 2013 , 37, 1147-1162	4.5	243
108	Design optimization of shell-and-tube heat exchanger using particle swarm optimization technique. <i>Applied Thermal Engineering</i> , 2010 , 30, 1417-1425	5.8	168
107	Heat transfer search (HTS): a novel optimization algorithm. <i>Information Sciences</i> , 2015 , 324, 217-246	7.7	148
106	Multi-objective optimization of two stage thermoelectric cooler using a modified teaching-learning-based optimization algorithm. <i>Engineering Applications of Artificial Intelligence</i> , 2013 , 26, 430-445	7.2	143
105	Thermodynamic optimization of cross flow plate-fin heat exchanger using a particle swarm optimization algorithm. <i>International Journal of Thermal Sciences</i> , 2010 , 49, 1712-1721	4.1	135
104	Adaptive symbiotic organisms search (SOS) algorithm for structural design optimization. <i>Journal of Computational Design and Engineering</i> , 2016 , 3, 226-249	4.6	123
103	Recent Development in Friction Stir Processing as a Solid-State Grain Refinement Technique: Microstructural Evolution and Property Enhancement. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2019 , 44, 378-426	10.1	106
102	Comparative performance of an elitist teaching-learning-based optimization algorithm for solving unconstrained optimization problems. <i>International Journal of Industrial Engineering Computations</i> , 2013 , 4, 29-50	1.7	81
101	Truss optimization with natural frequency bounds using improved symbiotic organisms search. <i>Knowledge-Based Systems</i> , 2018 , 143, 162-178	7.3	77
100	Optimization of a plate-fin heat exchanger design through an improved multi-objective teaching-learning based optimization (MO-ITLBO) algorithm. <i>Chemical Engineering Research and Design</i> , 2014 , 92, 2371-2382	5.5	68
99	A multi-objective improved teaching-learning based optimization algorithm (MO-ITLBO). <i>Information Sciences</i> , 2016 , 357, 182-200	7.7	67
98	Stationary shoulder tool in friction stir processing: a novel low heat input tooling system for magnesium alloy. <i>Materials and Manufacturing Processes</i> , 2019 , 34, 177-182	4.1	61
97	Multi-Objective Optimization of Vehicle Passive Suspension System Using NSGA-II, SPEA2 and PESA-II. <i>Procedia Technology</i> , 2016 , 23, 361-368		58
96	The Henry gas solubility optimization algorithm for optimum structural design of automobile brake components. <i>Materialpruefung/Materials Testing</i> , 2020 , 62, 261-264	1.9	55
95	Optimization of mechanical draft counter flow wet-cooling tower using artificial bee colony algorithm. <i>Energy Conversion and Management</i> , 2011 , 52, 2611-2622	10.6	51
94	Thermal-hydraulic optimization of plate heat exchanger: A multi-objective approach. <i>International Journal of Thermal Sciences</i> , 2018 , 124, 522-535	4.1	51

93	An improved teaching-learning-based optimization algorithm for solving unconstrained optimization problems. <i>Scientia Iranica</i> , 2012 ,	1.5	47
92	Multi-Response Optimization of WEDM Process Parameters for Machining of Superelastic Nitinol Shape-Memory Alloy Using a Heat-Transfer Search Algorithm. <i>Materials</i> , 2019 , 12,	3.5	43
91	Fabrication of Hybrid Surface Composites AA6061/(B4C + MoS2) via Friction Stir Processing. <i>Journal of Tribology</i> , 2019 , 141,	1.8	42
90	Size, shape, and topology optimization of planar and space trusses using mutation-based improved metaheuristics. <i>Journal of Computational Design and Engineering</i> , 2018 , 5, 198-214	4.6	42
89	Surface Analysis of Wire-Electrical-Discharge-Machining-Processed Shape-Memory Alloys. <i>Materials</i> , 2020 , 13,	3.5	40
88	Truss topology optimization with static and dynamic constraints using modified subpopulation teaching-learning-based optimization. <i>Engineering Optimization</i> , 2016 , 48, 1990-2006	2	39
87	An efficient optimization and comparative analysis of ammonia and methanol heat pipe for satellite application. <i>Energy Conversion and Management</i> , 2018 , 165, 382-395	10.6	37
86	Many-objective optimization of shell and tube heat exchanger. <i>Thermal Science and Engineering Progress</i> , 2017 , 2, 87-101	3.6	35
85	Layout optimization of a wind farm to maximize the power output using enhanced teaching learning based optimization technique. <i>Journal of Cleaner Production</i> , 2017 , 158, 81-94	10.3	35
84	Multi-objective optimization of a Stirling heat engine using TS-TLBO (tutorial training and self learning inspired teaching-learning based optimization) algorithm. <i>Energy</i> , 2016 , 95, 528-541	7.9	35
83	Many-objective optimization of cross-flow plate-fin heat exchanger. <i>International Journal of Thermal Sciences</i> , 2017 , 118, 320-339	4.1	33
82	Multi-objective optimization of combined Brayton and inverse Brayton cycles using advanced optimization algorithms. <i>Engineering Optimization</i> , 2012 , 44, 965-983	2	33
81	Topology and Size Optimization of Trusses with Static and Dynamic Bounds by Modified Symbiotic Organisms Search. <i>Journal of Computing in Civil Engineering</i> , 2018 , 32, 04017085	5	33
80	Topology optimization of truss subjected to static and dynamic constraints by integrating simulated annealing into passing vehicle search algorithms. <i>Engineering With Computers</i> , 2019 , 35, 499-517	5	32
79	Modified sub-population teaching-learning-based optimization for design of truss structures with natural frequency constraints. <i>Mechanics Based Design of Structures and Machines</i> , 2016 , 44, 495-513	1.7	31
78	Conceptual comparison of the ecogeography-based algorithm, equilibrium algorithm, marine predators algorithm and slime mold algorithm for optimal product design. <i>Materialprüfung/Materials Testing</i> , 2021 , 63, 336-340	1.9	29
77	Multi-objective optimization of a rotary regenerator using tutorial training and self-learning inspired teaching-learning based optimization algorithm (TS-TLBO). <i>Applied Thermal Engineering</i> , 2016 , 93, 456-467	5.8	27
76	Through-thickness microstructure and mechanical properties in stationary shoulder friction stir processed AA7075. <i>Materials Science and Technology</i> , 2019 , 35, 1762-1769	1.5	27

75	Thermal design and optimization of fin-and-tube heat exchanger using heat transfer search algorithm. <i>Thermal Science and Engineering Progress</i> , 2017 , 4, 45-57	3.6	27
74	Many-objective thermodynamic optimization of Stirling heat engine. <i>Energy</i> , 2017 , 125, 629-642	7.9	26
73	Efficiency, thrust, and fuel consumption optimization of a subsonic/sonic turbojet engine. <i>Energy</i> , 2018 , 144, 992-1002	7.9	24
72	Effect of WEDM Process Parameters on Surface Morphology of Nitinol Shape Memory Alloy. <i>Materials</i> , 2020 , 13,	3.5	24
71	A comparative performance evaluation of the reversed Brayton cycle operated heat pump based on thermo-ecological criteria through many and multi objective approaches. <i>Energy Conversion and Management</i> , 2019 , 183, 252-265	10.6	23
70	Pareto optimization of WEDM process parameters for machining a NiTi shape memory alloy using a combined approach of RSM and heat transfer search algorithm. <i>Advances in Manufacturing</i> , 2021 , 9, 64-80	2.7	23
69	Modified meta-heuristics using random mutation for truss topology optimization with static and dynamic constraints. <i>Journal of Computational Design and Engineering</i> , 2017 , 4, 106-130	4.6	21
68	Assessment of liquid desiccant dehumidification aided vapor-compression refrigeration system based on thermo-economic approach. <i>Applied Thermal Engineering</i> , 2020 , 164, 114542	5.8	20
67	An improved heat transfer search algorithm for unconstrained optimization problems. <i>Journal of Computational Design and Engineering</i> , 2019 , 6, 13-32	4.6	18
66	An efficient optimization and comparative analysis of cascade refrigeration system using NH ₃ /CO ₂ and C ₃ H ₈ /CO ₂ refrigerant pairs. <i>International Journal of Refrigeration</i> , 2019 , 102, 62-76	3.8	17
65	Experimental investigations and optimization of MWCNTs-mixed WEDM process parameters of nitinol shape memory alloy. <i>Journal of Materials Research and Technology</i> , 2021 , 15, 2152-2169	5.5	17
64	Formability of an AA5083 aluminum alloy T-joint using SSFSW on both corners. <i>Materials and Manufacturing Processes</i> , 2019 , 34, 1737-1744	4.1	16
63	Surface analysis of stationary shoulder friction stir processed AZ31B magnesium alloy. <i>Materials Science and Technology</i> , 2019 , 35, 628-631	1.5	16
62	Thermo-economic optimization of a nanofluid based organic Rankine cycle: A multi-objective study and analysis. <i>Thermal Science and Engineering Progress</i> , 2020 , 17, 100381	3.6	16
61	A multi-objective improved teaching-learning based optimization algorithm for unconstrained and constrained optimization problems. <i>International Journal of Industrial Engineering Computations</i> , 2014 , 1-22	1.7	15
60	Design optimization of shell and tube heat exchangers using swarm optimization algorithms. <i>Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy</i> , 2011 , 225, 619-634	1.6	14
59	Parametric Optimization and Effect of Nano-Graphene Mixed Dielectric Fluid on Performance of Wire Electrical Discharge Machining Process of NiTi Shape Memory Alloy. <i>Materials</i> , 2021 , 14,	3.5	14
58	Performance assessment of flat-plate solar collector with internal fins and porous media through an integrated approach of CFD and experimentation. <i>International Journal of Thermal Sciences</i> , 2021 , 165, 106932	4.1	14

57	Optimization of Activated Tungsten Inert Gas Welding Process Parameters Using Heat Transfer Search Algorithm: With Experimental Validation Using Case Studies. <i>Metals</i> , 2021 , 11, 981	2.3	13
56	Multiobjective thermo-economic and thermodynamics optimization of a plate-fin heat exchanger. <i>Heat Transfer - Asian Research</i> , 2018 , 47, 253-270	2.8	13
55	Temperature Distribution During Friction Stir Welding of AA2014 Aluminum Alloy: Experimental and Statistical Analysis. <i>Transactions of the Indian Institute of Metals</i> , 2019 , 72, 969-981	1.2	12
54	Design optimization of rotary regenerator using artificial bee colony algorithm. <i>Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy</i> , 2011 , 225, 1088-1098	1.6	12
53	Experimental Investigations and Pareto Optimization of Fiber Laser Cutting Process of Ti6Al4V. <i>Metals</i> , 2021 , 11, 1461	2.3	11
52	Modified Sub-Population Based Heat Transfer Search Algorithm for Structural Optimization. <i>International Journal of Applied Metaheuristic Computing</i> , 2017 , 8, 1-23	0.8	10
51	Comparative analysis of nanofluid-based Organic Rankine Cycle through thermoeconomic optimization. <i>Heat Transfer - Asian Research</i> , 2019 , 48, 3013-3038	2.8	10
50	Experimental investigation of the thermal performance of closed loop flat plate oscillating heat pipe. <i>Experimental Heat Transfer</i> , 2021 , 34, 85-103	2.4	10
49	Experimental assessment of a small scale hybrid liquid desiccant dehumidification incorporated vapor compression refrigeration system: An energy saving approach. <i>Applied Thermal Engineering</i> , 2020 , 174, 115288	5.8	9
48	Performance improvement of the sanitary centrifugal pump through an integrated approach based on response surface methodology, multi-objective optimization and CFD. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , 2021 , 43, 1	2	9
47	High-speed friction stir welding in light weight battery trays for the EV industry. <i>Science and Technology of Welding and Joining</i> , 2022 , 27, 250-255	3.7	9
46	Thermal System Optimization 2019 ,		7
45	Multi-Response Optimization of Abrasive Waterjet Machining of Ti6Al4V Using Integrated Approach of Utilized Heat Transfer Search Algorithm and RSM.. <i>Materials</i> , 2021 , 14,	3.5	7
44	A multiobjective thermodynamic optimization of a nanoscale Stirling engine operated with Maxwell-Boltzmann gas. <i>Heat Transfer - Asian Research</i> , 2019 , 48, 1913-1932	2.8	6
43	Pareto Optimization of a Half Car Passive Suspension Model Using a Novel Multiobjective Heat Transfer Search Algorithm. <i>Modelling and Simulation in Engineering</i> , 2017 , 2017, 1-17	1.3	6
42	Layout optimization of a wind farm using geometric pattern-based approach. <i>Energy Procedia</i> , 2019 , 158, 940-946	2.3	5
41	Opportunistic sensing based detection of crowdedness in public transport buses. <i>Pervasive and Mobile Computing</i> , 2020 , 68, 101246	3.5	5
40	Optimization of EDM Drilling Parameters for Aluminum 2024 Alloy Using Response Surface Methodology and Genetic Algorithm. <i>Key Engineering Materials</i> , 2016 , 706, 3-8	0.4	4

39	Qualitative and Quantitative Performance Comparison of Recent Optimization Algorithms for Economic Optimization of the Heat Exchangers. <i>Archives of Computational Methods in Engineering</i> , 2021 , 28, 2881-2896	7.8	4
38	Topology optimization of an offshore jacket structure considering aerodynamic, hydrodynamic and structural forces. <i>Engineering With Computers</i> , 2020 , 37, 2911	4.5	3
37	Water desalination and wastewater reuse using integrated reverse osmosis and forward osmosis system. <i>IOP Conference Series: Materials Science and Engineering</i> , 2021 , 1146, 012029	0.4	3
36	Comparative Performance of Recent Advanced Optimization Algorithms for Minimum Energy Requirement Solutions in Water Pump Switching Network. <i>Archives of Computational Methods in Engineering</i> , 2021 , 28, 1545-1559	7.8	3
35	Experimental investigation on welding of 2.25 Cr-1.0 Mo steel with regulated metal deposition and GMAW technique incorporating metal-cored wires. <i>Journal of Materials Research and Technology</i> , 2021 , 15, 1007-1016	5.5	3
34	Multi-Response Optimization of ALO Nanopowder-Mixed Wire Electrical Discharge Machining Process Parameters of Nitinol Shape Memory Alloy.. <i>Materials</i> , 2022 , 15,	3.5	3
33	Optimal Sizing and Placement of Multiple Distributed Generators using Teaching Learning Based Optimization Algorithm in Radial Distributed Network 2019 ,		2
32	Analysis and assessment of a nanoparticle seeded small scale absorption refrigeration system driven by a low-grade waste heat source. <i>Heat Transfer</i> , 2020 , 49, 3409-3432	3.1	2
31	Investigation on a small-scale vertical tube evaporator multieffect desalination system: Modeling, analysis, and optimization. <i>Heat Transfer</i> , 2021 , 50, 5332-5355	3.1	2
30	A performance evaluation of the ejector refrigeration system based on thermo-economic criteria through multi-objective approach. <i>Clean Technologies and Environmental Policy</i> , 2021 , 23, 1087-1103	4.3	2
29	An Unrestricted Placement of Wind Turbines Toward Maximizing the Energy Output Using Teacher-Artificial Bee Colony Algorithm. <i>Lecture Notes in Electrical Engineering</i> , 2018 , 613-622	0.2	1
28	Feasibility and parametric study of a thermal- energy driven Reverse Osmosis system for Water Treatment in India. <i>Journal of Physics: Conference Series</i> , 2019 , 1276, 012016	0.3	1
27	Performance Evaluation of Latent Heat Thermal Storage Unit by integrating it with Flat Plate type Solar Air Heater. <i>Journal of Physics: Conference Series</i> , 2019 , 1276, 012076	0.3	1
26	Multi-objective optimization of CuO based organic Rankine cycle operated using R245ca. <i>E3S Web of Conferences</i> , 2019 , 116, 00062	0.5	1
25	Elucidating the Effect of Step Cooling Heat Treatment on the Properties of 2.25 Cr-1.0 Mo Steel Welded with a Combination of GMAW Techniques Incorporating Metal-Cored Wires. <i>Materials</i> , 2021 , 14,	3.5	1
24	Biogeography Based Optimization for Water Pump Switching Problem. <i>Modeling and Optimization in Science and Technologies</i> , 2020 , 183-202	0.6	1
23	Hybrid spotted hyena-Nelder-Mead optimization algorithm for selection of optimal machining parameters in grinding operations. <i>Materialpruefung/Materials Testing</i> , 2021 , 63, 293-298	1.9	1
22	Brackish ground water and dairy wastewater treatment using electro dialysis system. <i>IOP Conference Series: Materials Science and Engineering</i> , 2021 , 1146, 012006	0.4	1

21	Thermal Design and Optimization of Heat Exchangers 2019 , 33-98		1
20	Performance of Recent Optimization Algorithms and Its Comparison to State-of-the-Art Differential Evolution and Its Variants for the Economic Optimization of Cooling Tower. <i>Archives of Computational Methods in Engineering</i> , 2021 , 28, 4523	7.8	1
19	Machining parameter optimization and experimental investigations of nano-graphene mixed electrical discharge machining of nitinol shape memory alloy. <i>Journal of Materials Research and Technology</i> , 2022 , 19, 653-668	5.5	1
18	Optimization of Bead Morphology for GMAW-Based Wire-Arc Additive Manufacturing of 2.25 Cr-1.0 Mo Steel Using Metal-Cored Wires. <i>Applied Sciences (Switzerland)</i> , 2022 , 12, 5060	2.6	1
17	Exploring the Effect of Passing Vehicle Search (PVS) for the Wind Farm Layout Optimization Problem. <i>Lecture Notes in Mechanical Engineering</i> , 2020 , 411-418	0.4	0
16	Energy, economy, and ecological (3E)-based performance evaluation of a steam cycle power plant through optimization investigation. <i>Heat Transfer</i> , 2021 , 50, 6491	3.1	0
15	A novel geometric pattern-based approach to maximize power output of a wind farm. <i>Clean Technologies and Environmental Policy</i> , 2017 , 19, 1725-1743	4.3	
14	Optimization of Process Parameters Using Response Surface Methodology to Improve Surface Finish in Face Gear Grinding. <i>Lecture Notes in Intelligent Transportation and Infrastructure</i> , 2022 , 255-261 ^{0.3}		
13	Effect of Combining Teaching Learning-Based Optimization (TLBO) with Different Search Techniques. <i>Lecture Notes in Mechanical Engineering</i> , 2020 , 361-372	0.4	
12	Air Engine Efficiency Improvement Using Control System. <i>Lecture Notes in Mechanical Engineering</i> , 2020 , 381-388	0.4	
11	An Industrial Heat Exchanger Optimization from Economic View Point. <i>Lecture Notes in Mechanical Engineering</i> , 2020 , 399-410	0.4	
10	Metaheuristic Methods 2019 , 7-32		
9	Thermal Design and Optimization of Refrigeration Systems 2019 , 199-286		
8	Thermal Design and Optimization of Heat Engines and Heat Pumps 2019 , 99-198		
7	Thermal Design and Optimization of Power Cycles 2019 , 287-344		
6	Thermal Design and Optimization of Few Miscellaneous Systems 2019 , 345-413		
5	Effective search technique in teaching and learning phase of TLBO algorithm for numerical function optimisation. <i>International Journal of Swarm Intelligence</i> , 2018 , 3, 332	0.3	
4	CFD Simulation of Dehumidification of Air in Humidification-Dehumidification based Water Desalination System. <i>Iranian Journal of Science and Technology - Transactions of Mechanical Engineering</i> , 1	1.2	

- 3 Investigation on detachable vertical tube evaporator for small scale multi effect distillation system: Design, modelling, fabrication and experimental analysis. *Heat and Mass Transfer*,1 2.2
- 2 Performance enhancement of camless air engine by optimizing the inlet-valve cut-off position. *International Journal of Ambient Energy*,1-31 2
- 1 Opportunistic Sensing-Based Route Demand Assessment and Feeder Bus Scheduling. *Studies in Infrastructure and Control*, **2022**, 167-179