Rahul Rai

List of Publications by Year
in descending order

55 papers	1,478 citations	430874 18 h-index	345221 36 g-index
56 all docs	56 docs citations	56 times ranked	1084 citing authors

#	Article	IF	Citations
1	Personal protective equipments (PPEs) for COVID-19: a product lifecycle perspective. International Journal of Production Research, 2022, 60, 3282-3303.	7.5	14
2	Generative design of conformal cubic periodic cellular structures using a surrogate model-based optimisation scheme. International Journal of Production Research, 2022, 60, 1458-1477.	7.5	8
3	Improving connectivity and accelerating multiscale topology optimization using deep neural network techniques. Structural and Multidisciplinary Optimization, 2022, 65, 1.	3.5	19
4	An Optimization Framework for Operational-Level Resource Composition in an Inclusive Manufacturing System. Journal of Computing and Information Science in Engineering, 2022, 22, .	2.7	0
5	IH-GAN: A conditional generative model for implicit surface-based inverse design of cellular structures. Computer Methods in Applied Mechanics and Engineering, 2022, 396, 115060.	6.6	22
6	Hierarchical combinatorial design and optimization of non-periodic metamaterial structures. Additive Manufacturing, 2021, 37, 101710.	3.0	9
7	Controlling Draft Interactions Between Quadcopter Unmanned Aerial Vehicles with Physics-aware Modeling. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 101, 1.	3.4	7
8	Characterization of head modulation during touchdown process using magnetic spacing sensitivity analysis. Microsystem Technologies, 2021, 27, 2453-2459.	2.0	1
9	MIDPhyNet: Memorized infusion of decomposed physics in neural networks to model dynamic systems. Neurocomputing, 2021, 428, 116-129.	5.9	19
10	Automated Procedure Reconfiguration Framework for Augmented Reality-Guided Maintenance Applications. Journal of Computing and Information Science in Engineering, 2021, 21, .	2.7	11
11	The interpretive model of manufacturing: a theoretical framework and research agenda for machine learning in manufacturing. International Journal of Production Research, 2021, 59, 4960-4994.	7.5	24
12	Machine learning in manufacturing and industry 4.0 applications. International Journal of Production Research, 2021, 59, 4773-4778.	7.5	167
13	Multi-stage deep neural network accelerated topology optimization. Structural and Multidisciplinary Optimization, 2021, 64, 3473-3487.	3.5	12
14	Artificial intelligence (AI) in augmented reality (AR)-assisted manufacturing applications: a review. International Journal of Production Research, 2021, 59, 4903-4959.	7.5	96
15	Ontology-based approach to extract product's design features from online customers' reviews. Computers in Industry, 2020, 116, 103175.	9.9	35
16	Detecting functional field units from satellite images in smallholder farming systems using a deep learning based computer vision approach: A case study from Bangladesh. Remote Sensing Applications: Society and Environment, 2020, 20, 100413.	1.5	11
17	A physics-aware learning architecture with input transfer networks for predictive modeling. Applied Soft Computing Journal, 2020, 96, 106665.	7.2	7
18	Driven by Data or Derived Through Physics? A Review of Hybrid Physics Guided Machine Learning Techniques With Cyber-Physical System (CPS) Focus. IEEE Access, 2020, 8, 71050-71073.	4.2	135

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19	A method for monitoring head media spacing change in a hard disk drive using an embedded contact sensor. Microsystem Technologies, 2020, 26, 3459-3467.	2.0	3
20	Enriching the functionally graded materials (FGM) ontology for digital manufacturing. International Journal of Production Research, 2020, , 1-18.	7.5	6
21	CNN-LSTM deep learning architecture for computer vision-based modal frequency detection. Mechanical Systems and Signal Processing, 2020, 144, 106885.	8.0	112
22	A Preference-Based Approach to Assess a Componentâ€™s Design Readiness for Additive Manufacturing. Journal of Mechanical Design, Transactions of the ASME, 2020, 142, .	2.9	4
23	Joint Identification and Control in Hybrid Linear Systems. IFAC-PapersOnLine, 2020, 53, 1084-1089.	0.9	0
24	Machine auscultation: enabling machine diagnostics using convolutional neural networks and large-scale machine audio data. Advances in Manufacturing, 2019, 7, 174-187.	6.1	26
25	Degradation Mechanism Detection in Photovoltaic Backsheets by Fully Convolutional Neural Network. Scientific Reports, 2019, 9, 16119.	3.3	7
26	Convolutional neural network-based inspection of metal additive manufacturing parts. Rapid Prototyping Journal, 2019, 25, 530-540.	3.2	43
27	An ontological approach to representing the product life cycle. Applied Ontology, 2019, 14, 179-197.	2.0	18
28	Deep learningâ€“based stress prediction for bottom-up SLA 3D printing process. International Journal of Advanced Manufacturing Technology, 2019, 102, 2555-2569.	3.0	65
29	Investigation of compressive deformation behaviors of cubic periodic cellular structural cubes through 3D printed parts and FE simulations. Rapid Prototyping Journal, 2019, 26, 459-472.	3.2	5
30	PI-LSTM: Physics-Infused Long Short-Term Memory Network. , 2019, , .		21
31	A geometric reasoning approach for additive manufacturing print quality assessment and automated model correction. CAD Computer Aided Design, 2019, 109, 1-11.	2.7	10
32	A product life cycle ontology for additive manufacturing. Computers in Industry, 2019, 105, 191-203.	9.9	47
33	Additive Manufacturing of Functionally Graded Material Objects: A Review. Journal of Computing and Information Science in Engineering, 2018, 18, .	2.7	71
34	FeatureNet: Machining feature recognition based on 3D Convolution Neural Network. CAD Computer Aided Design, 2018, 101, 12-22.	2.7	140
35	Build orientation optimization for additive manufacturing of functionally graded material objects. International Journal of Advanced Manufacturing Technology, 2018, 96, 223-235.	3.0	41
36	Data-driven simulation for fast prediction of pull-up process in bottom-up stereo-lithography. CAD Computer Aided Design, 2018, 99, 29-42.	2.7	20

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37	Hierarchical Combinatorial Design and Optimization of Quasi-Periodic Metamaterial Structures. , 2018, , .		2
38	Conceptual Three-Dimensional Modeling Using Intuitive Gesture-Based Midair Three-Dimensional Sketching Technique. Journal of Computing and Information Science in Engineering, 2018, 18, .	2.7	11
39	Sustainability-induced dual-level optimization of additive manufacturing process. International Journal of Advanced Manufacturing Technology, 2017, 88, 1945-1959.	3.0	38
40	Invariant probabilistic sensitivity analysis for building energy models. Journal of Building Performance Simulation, 2017, 10, 392-405.	2.0	6
41	Probabilistic Factor Graph Based Approach for Automatic Material Assignments to Three-Dimensional Objects. Journal of Mechanical Design, Transactions of the ASME, 2017, 139, .	2.9	0
42	Classification of Bio-Inspired Periodic Cubic Cellular Materials Based on Compressive Deformation Behaviors of 3D Printed Parts and FE Simulations. , 2016, , .		3
43	Additive Manufacturing of Functionally Graded Objects: A Review. , 2016, , .		9
44	Development of a Manufacturing Ontology for Functionally Graded Materials. , 2016, , .		12
45	Assembly-based conceptual 3D modeling with unlabeled components using probabilistic factor graph. CAD Computer Aided Design, 2016, 74, 45-54.	2.7	27
46	Fragmentary shape recognition: A BCI study. CAD Computer Aided Design, 2016, 71, 51-64.	2.7	10
47	Laplacian graph based approach for uncertainty quantification of large scale dynamical systems. , 2015, , .		0
48	Computational Geometric Solutions for Efficient Additive Manufacturing Process Planning. , 2014, , .		5
49	Human factors study on the usage of BCI headset for 3D CAD modeling. CAD Computer Aided Design, 2014, 54, 51-55.	2.7	27
50	Autonomous task assignment of multiple operators for human robot interaction. , 2013, , .		5
51	Jacobian matrix singularity based pareto front identification for multi-objective problems. , 2013, , .		0
52	A Stochastic Tree-Search Algorithm for Generative Grammars1. Journal of Computing and Information Science in Engineering, 2012, 12, .	2.7	8
53	Development and Utilization of Ontologies in Design for Manufacturing. Journal of Mechanical Design, Transactions of the ASME, 2010, 132, .	2.9	50
54	Principles for Managing Technological Product Obsolescence. IEEE Transactions on Components and Packaging Technologies, 2008, 31, 880-889.	1.3	24

#	Article	IF	Citations
55	Continuous video stream pixel sensor: A CNN–LSTM based deep learning approach for mode shape prediction. Structural Control and Health Monitoring, 0, , e2892.	4.0	5