Ali Zolfagharian

List of Publications by Year
in descending order

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85 papers	3,063 citations	159358 30 h-index	174990 52 g-index
85 all docs	85 docs citations	85 times ranked	2090 citing authors

#	Article	IF	Citations
1	Evolution of 3D printed soft actuators. Sensors and Actuators A: Physical, 2016, 250, 258-272.	2.0	232
2	Recent progress in extrusion 3D bioprinting of hydrogel biomaterials for tissue regeneration: a comprehensive review with focus on advanced fabrication techniques. Biomaterials Science, 2021, 9, 535-573.	2.6	206
3	Reversible energy absorbing meta-sandwiches by FDM 4D printing. International Journal of Mechanical Sciences, 2020, 173, 105451.	3.6	154
4	4D Printing Self-Morphing Structures. Materials, 2019, 12, 1353.	1.3	149
5	Closed-loop 4D-printed soft robots. Materials and Design, 2020, 188, 108411.	3.3	127
6	Biopolymeric sustainable materials and their emerging applications. Journal of Environmental Chemical Engineering, 2022, 10, 108159.	3.3	106
7	3D/4D-printed bending-type soft pneumatic actuators: fabrication, modelling, and control. Virtual and Physical Prototyping, 2020, 15, 373-402.	5.3	103
8	Shape-Adaptive Metastructures with Variable Bandgap Regions by 4D Printing. Polymers, 2020, 12, 519.	2.0	92
9	Pattern-driven 4D printing. Sensors and Actuators A: Physical, 2018, 274, 231-243.	2.0	81
10	Soft Pneumatic Actuators: A Review of Design, Fabrication, Modeling, Sensing, Control and Applications. IEEE Access, 2022, 10, 59442-59485.	2.6	72
11	Magnetoâ€/ electroâ€responsive polymers toward manufacturing, characterization, and biomedical/ soft robotic applications. Applied Materials Today, 2022, 26, 101306.	2.3	70
12	Control-Based 4D Printing: Adaptive 4D-Printed Systems. Applied Sciences (Switzerland), 2020, 10, 3020.	1.3	66
13	Development and analysis of a 3D printed hydrogel soft actuator. Sensors and Actuators A: Physical, 2017, 265, 94-101.	2.0	62
14	Topology-Optimized 4D Printing of a Soft Actuator. Acta Mechanica Solida Sinica, 2020, 33, 418-430.	1.0	61
15	4D printing: Technological developments in robotics applications. Sensors and Actuators A: Physical, 2022, 343, 113670.	2.0	60
16	Structural performance of 3D-printed composites under various loads and environmental conditions. Polymer Testing, 2020, 91, 106770.	2.3	59
17	Dynamic plant-derived polysaccharide-based hydrogels. Carbohydrate Polymers, 2020, 231, 115743.	5.1	57
18	4D printing soft robots guided by machine learning and finite element models. Sensors and Actuators A: Physical, 2021, 328, 112774.	2.0	55

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19	3D-printed bio-inspired zero Poissonâ€™s ratio graded metamaterials with high energy absorption performance. Smart Materials and Structures, 2022, 31, 035001.	1.8	55
20	Polyelectrolyte Soft Actuators: 3D Printed Chitosan and Cast Gelatin. 3D Printing and Additive Manufacturing, 2018, 5, 138-150.	1.4	53
21	Fracture Resistance Analysis of 3D-Printed Polymers. Polymers, 2020, 12, 302.	2.0	48
22	Intelligent active force control of a 3-RRR parallel manipulator incorporating fuzzy resolved acceleration control. Applied Mathematical Modelling, 2012, 36, 2370-2383.	2.2	47
23	Fracture and load-carrying capacity of 3D-printed cracked components. Extreme Mechanics Letters, 2020, 37, 100692.	2.0	45
24	Influence of Infill Patterns Generated by CAD and FDM 3D Printer on Surface Roughness and Tensile Strength Properties. Applied Sciences (Switzerland), 2021, 11, 7272.	1.3	44
25	3D Printing On-Water Sports Boards with Bio-Inspired Core Designs. Polymers, 2020, 12, 250.	2.0	39
26	Energy Absorption and Mechanical Performance of Functionally Graded Softâ€“Hard Lattice Structures. Materials, 2021, 14, 1366.	1.3	38
27	Design, evaluation, and optimization of 3D printed truss scaffolds for bone tissue engineering. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 120, 104594.	1.5	38
28	Reversible energy absorption of elasto-plastic auxetic, hexagonal, and AuxHex structures fabricated by FDM 4D printing. Smart Materials and Structures, 2022, 31, 055021.	1.8	36
29	3Dâ€Printed Triboelectric Nanogenerators: State of the Art, Applications, and Challenges. Advanced Energy and Sustainability Research, 2021, 2, 2000045.	2.8	32
30	Dynamic nanocellulose hydrogels: Recent advancements and future outlook. Carbohydrate Polymers, 2021, 270, 118357.	5.1	32
31	3D-Printed Programmable Mechanical Metamaterials for Vibration Isolation and Buckling Control. Sustainability, 2022, 14, 6831.	1.6	31
32	Study on motion of rigid rod on a circular surface using MHPM. Propulsion and Power Research, 2014, 3, 159-164.	2.0	30
33	Unwanted noise and vibration control using finite element analysis and artificial intelligence. Applied Mathematical Modelling, 2014, 38, 2435-2453.	2.2	30
34	Constitutive Modeling of multi-stimuli-responsive shape memory polymers with multi-functional capabilities. International Journal of Mechanical Sciences, 2021, 192, 106082.	3.6	30
35	4D printing technology in medical engineering: aÂnarrative review. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2022, 44, .	0.8	29
36	In vitro static and dynamic cell culture study of novel bone scaffolds based on 3D-printed PLA and cell-laden alginate hydrogel. Biomedical Materials (Bristol), 2022, 17, 045024.	1.7	29

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37	Blood Pressure Sensors: Materials, Fabrication Methods, Performance Evaluations and Future Perspectives. Sensors, 2020, 20, 4484.	2.1	27
38	Patient-specific 3D-printed Splint for Mallet Finger Injury. International Journal of Bioprinting, 2020, 6, 259.	1.7	26
39	Analytical thermal study on nonlinear fundamental heat transfer cases using a novel computational technique. Applied Thermal Engineering, 2016, 98, 88-97.	3.0	25
40	3D printed soft parallel actuator. Smart Materials and Structures, 2018, 27, 045019.	1.8	24
41	Bending control of a 3D printed polyelectrolyte soft actuator with uncertain model. Sensors and Actuators A: Physical, 2019, 288, 134-143.	2.0	24
42	Fuzzy force learning controller of flexible wiper system. Neural Computing and Applications, 2016, 27, 483-493.	3.2	22
43	Effects of Topology Optimization in Multimaterial 3D Bioprinting of Soft Actuators. International Journal of Bioprinting, 2020, 6, 260.	1.7	20
44	Failure analysis of 3D-printed PLA components: Impact of manufacturing defects and thermal ageing. Engineering Failure Analysis, 2022, 136, 106214.	1.8	20
45	Control-Oriented Modelling of a 3D-Printed Soft Actuator. Materials, 2019, 12, 71.	1.3	19
46	Dynamic Mussel-Inspired Chitin Nanocomposite Hydrogels for Wearable Strain Sensors. Polymers, 2020, 12, 1416.	2.0	19
47	4D Printing Classroom in Modern Interactive Learning Environments. Bioprinting, 2021, 24, e00169.	2.9	19
48	Functionally graded additive manufacturing for orthopedic applications. Journal of Orthopaedics, 2022, 33, 70-80.	0.6	18
49	3D Printing of a Photo-thermal Self-folding Actuator. KnE Engineering, 2017, 2, 15.	0.1	17
50	A Bioinspired Compliant 3D-Printed Soft Gripper. Soft Robotics, 2022, 9, 680-689.	4.6	16
51	3D printed hydrogel soft actuators. , 2016, , .		15
52	Thermal and hydrodynamic analysis of a conducting nanofluid flow through a sinusoidal wavy channel. Case Studies in Thermal Engineering, 2021, 28, 101642.	2.8	15
53	Rigid elements dynamics modeling of a 3D printed soft actuator. Smart Materials and Structures, 2019, 28, 025003.	1.8	14
54	A nonparametric approach using artificial intelligence in vibration and noise reduction of flexible systems. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2014, 228, 1329-1347.	1.1	13

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55	Stimuli-Responsive Polymer Systemsâ€"Recent Manufacturing Techniques and Applications. Materials, 2019, 12, 2380.	1.3	13
56	Unbalance and Harmonic disturbance attenuation of a flexible shaft with active magnetic bearings. Mechanical Systems and Signal Processing, 2019, 129, 614-628.	4.4	13
57	Nonlinear Finite Element Modelling of Thermo-Visco-Plastic Styrene and Polyurethane Shape Memory Polymer Foams. Actuators, 2021, 10, 46.	1.2	13
58	Advanced Design, Fabrication, and Applications of 3D-Printable Piezoelectric Nanogenerators. Electronic Materials Letters, 2022, 18, 129-144.	1.0	13
59	Active force control of 3-RRR planar parallel manipulator. , 2010, , .		12
60	A Multi-objective, active fuzzy force controller in control of flexible wiper system. Latin American Journal of Solids and Structures, 2014, 11, 1490-1514.	0.6	12
61	Practical multi-objective controller for preventing noise and vibration in an automobile wiper system. Swarm and Evolutionary Computation, 2013, 8, 54-68.	4.5	11
62	Electrothermal Modeling and Analysis of Polypyrrole-Coated Wearable E-Textiles. Materials, 2021, 14, 550.	1.3	11
63	Custom Shoe Sole Design and Modeling Toward 3D Printing. International Journal of Bioprinting, 2021, 7, 396.	1.7	11
64	4D printing of soft orthoses for tremor suppression. Bio-Design and Manufacturing, 2022, 5, 786-807.	3.9	11
65	An electroactive polymer composite with reinforced bending strength, based on tubular micro carbonized-cellulose. Chemical Engineering Journal, 2018, 334, 1775-1780.	6.6	10
66	System identification and robust tracking of a 3D printed soft actuator. Smart Materials and Structures, 2019, 28, 075025.	1.8	10
67	Functional Polymers in Sensors and Actuators: Fabrication and Analysis. Polymers, 2020, 12, 1569.	2.0	9
68	A pneumatic conveyor robot for color detection and sorting. Cognitive Robotics, 2022, 2, 60-72.	3.2	8
69	Analysis of nano droplet dynamics with various sphericities using efficient computational techniques. Journal of Central South University, 2017, 24, 2353-2359.	1.2	7
70	Influence of Hybridization on Tensile Behaviors of Non-Absorbable Braided Polymeric Sutures. Polymers, 2020, 12, 682.	2.0	7
71	Dynamic analysis on the epidemic model of infectious diseases using a powerful computational method. International Journal of Modern Physics C, 2022, 33, .	0.8	7
72	Numerical study on polymer nanofibers with electrically charged jet of viscoelastic fluid in electrospinning process. Journal of Central South University, 2017, 24, 2275-2280.	1.2	5

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73	Using fibrincollagen composite hydrogel and silk for bio-inspired design of tympanic membrane grafts: A vibro-acoustic analysis. Composites Part C: Open Access, 2021, 6, 100205.	1.5	5
74	4D printing principles and manufacturing. , 2022, , 1-17.		5
75	Experimentally validated vibro-acoustic modeling of 3D bio-printed grafts for potential use in human tympanic membrane regeneration. Bioprinting, 2022, 25, e00186.	2.9	4
76	4D-printed shape memory polymer: Modeling and fabrication. , 2022, , 195-228.		3
77	Performance Analysis of the Computed Torque Based Active Force Control for a Planar Parallel Manipulator. Applied Mechanics and Materials, 0, 110-116, 4932-4940.	0.2	2
78	Effects of Topology Optimization in Multimaterial 3D Bioprinting of Soft Actuators. International Journal of Bioprinting, 2020, 6, 260.	1.7	2
79	4D printing modeling via machine learning. , 2022, , 73-102.		2
80	Finite Element Methods in Smart Materials and Polymers. Polymers, 2020, 12, 1229.	2.0	1
81	A Portable Non-Contact Tremor Vibration Measurement and Classification Apparatus. Actuators, 2022, 11, 26.	1.2	1
82	4D printing modeling using ABAQUS: A guide for beginners. , 2022, , 53-72.		1
83	4D printing mechanics, modeling, and advanced engineering applications. , 2022, , 1-17.		1
84	Closed-loop control of 4D-printed hydrogel soft robots. , 2022, , 251-278.		1
85	4D bioprinting: Fabrication approaches and biomedical applications. , 2022, , 193-229.		1