

Babak Safaei

List of Publications by Year in descending order

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108
papers

5,044
citations

81743

39
h-index

114278

63
g-index

116
all docs

116
docs citations

116
times ranked

1585
citing authors

#	ARTICLE	IF	CITATIONS
1	IMCFN: Image-based malware classification using fine-tuned convolutional neural network architecture. <i>Computer Networks</i> , 2020, 171, 107138.	3.2	254
2	Free vibration analysis of rotating functionally graded CNT reinforced composite cylindrical shells with arbitrary boundary conditions. <i>Composite Structures</i> , 2019, 220, 847-860.	3.1	244
3	Machine Learning in Predictive Maintenance towards Sustainable Smart Manufacturing in Industry 4.0. <i>Sustainability</i> , 2020, 12, 8211.	1.6	243
4	Image-Based malware classification using ensemble of CNN architectures (IMCEC). <i>Computers and Security</i> , 2020, 92, 101748.	4.0	211
5	A unified solution for vibration analysis of laminated functionally graded shallow shells reinforced by graphene with general boundary conditions. <i>International Journal of Mechanical Sciences</i> , 2020, 170, 105341.	3.6	163
6	Nonlinear free vibrations of bi-directional functionally graded micro/nano-beams including nonlocal stress and microstructural strain gradient size effects. <i>Thin-Walled Structures</i> , 2019, 140, 342-356.	2.7	128
7	Modified couple stress-based geometrically nonlinear oscillations of porous functionally graded microplates using NURBS-based isogeometric approach. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 372, 113400.	3.4	101
8	Nonlocal strain gradient nonlinear resonance of bi-directional functionally graded composite micro/nano-beams under periodic soft excitation. <i>Thin-Walled Structures</i> , 2019, 143, 106226.	2.7	99
9	Graphene and CNT impact on heat transfer response of nanocomposite cylinders. <i>Nanotechnology Reviews</i> , 2020, 9, 41-52.	2.6	95
10	Buckling and postbuckling response of nonlocal strain gradient porous functionally graded micro/nano-plates via NURBS-based isogeometric analysis. <i>Thin-Walled Structures</i> , 2021, 159, 107231.	2.7	91
11	Influence of homogenization models on size-dependent nonlinear bending and postbuckling of bi-directional functionally graded micro/nano-beams. <i>Applied Mathematical Modelling</i> , 2020, 82, 336-358.	2.2	86
12	Finite element analysis of natural fibers composites: A review. <i>Nanotechnology Reviews</i> , 2020, 9, 853-875.	2.6	84
13	Traveling wave analysis of rotating functionally graded graphene platelet reinforced nanocomposite cylindrical shells with general boundary conditions. <i>Results in Physics</i> , 2019, 15, 102752.	2.0	82
14	Frequency-dependent forced vibration analysis of nanocomposite sandwich plate under thermo-mechanical loads. <i>Composites Part B: Engineering</i> , 2019, 161, 44-54.	5.9	82
15	Buckling behavior of porous CNT-reinforced plates integrated between active piezoelectric layers. <i>Engineering Structures</i> , 2020, 222, 111141.	2.6	81
16	Recent Developments in Luffa Natural Fiber Composites: Review. <i>Sustainability</i> , 2020, 12, 7683.	1.6	78
17	Couple stress-based nonlinear buckling analysis of hydrostatic pressurized functionally graded composite conical microshells. <i>Mechanics of Materials</i> , 2020, 148, 103507.	1.7	78
18	Critical buckling temperature and force in porous sandwich plates with CNT-reinforced nanocomposite layers. <i>Aerospace Science and Technology</i> , 2019, 91, 175-185.	2.5	77

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19	Experimental and simulation study of liquid coolant battery thermal management system for electric vehicles: A review. <i>International Journal of Energy Research</i> , 2021, 45, 6495-6517.	2.2	76
20	Dynamic stability of nonlocal strain gradient FGM truncated conical microshells integrated with magnetostrictive facesheets resting on a nonlinear viscoelastic foundation. <i>Thin-Walled Structures</i> , 2021, 159, 107249.	2.7	74
21	Static performance of agglomerated CNT-reinforced porous plates bonded with piezoceramic faces. <i>International Journal of Mechanical Sciences</i> , 2020, 188, 105966.	3.6	72
22	Nonlinear oscillations of composite conical microshells with in-plane heterogeneity based upon a couple stress-based shell model. <i>Thin-Walled Structures</i> , 2020, 154, 106857.	2.7	72
23	Large-amplitude oscillations of composite conical nanoshells with in-plane heterogeneity including surface stress effect. <i>Applied Mathematical Modelling</i> , 2021, 89, 1792-1813.	2.2	70
24	Isogeometric nonlinear oscillations of nonlocal strain gradient PFGM micro/nano-plates via NURBS-based formulation. <i>Composite Structures</i> , 2021, 255, 112969.	3.1	67
25	Thermoelastic behavior of sandwich plates with porous polymeric core and CNT clusters/polymer nanocomposite layers. <i>Composite Structures</i> , 2019, 226, 111209.	3.1	66
26	Nonlinear secondary resonance of FG porous silicon nanobeams under periodic hard excitations based on surface elasticity theory. <i>Engineering With Computers</i> , 2021, 37, 1611-1634.	3.5	63
27	On the surface elastic-based shear buckling characteristics of functionally graded composite skew nanoplates. <i>Thin-Walled Structures</i> , 2020, 154, 106841.	2.7	62
28	Isogeometric thermal postbuckling analysis of porous FGM quasi-3D nanoplates having cutouts with different shapes based upon surface stress elasticity. <i>Composite Structures</i> , 2021, 262, 113604.	3.1	60
29	Effect of thermal gradient load on thermo-elastic vibrational behavior of sandwich plates reinforced by carbon nanotube agglomerations. <i>Composite Structures</i> , 2018, 192, 28-37.	3.1	59
30	Frequency-dependent damped vibrations of multifunctional foam plates sandwiched and integrated by composite faces. <i>European Physical Journal Plus</i> , 2021, 136, 1.	1.2	56
31	State-of-the-art review of fabrication, application, and mechanical properties of functionally graded porous nanocomposite materials. <i>Nanotechnology Reviews</i> , 2022, 11, 321-371.	2.6	55
32	Size-dependent nonlinear bending behavior of porous FGM quasi-3D microplates with a central cutout based on nonlocal strain gradient isogeometric finite element modelling. <i>Engineering With Computers</i> , 2021, 37, 1657-1678.	3.5	54
33	Theoretical investigation of adsorption mechanism of doxorubicin anticancer drug on the pristine and functionalized single-walled carbon nanotube surface as a drug delivery vehicle: A DFT study. <i>Journal of Molecular Liquids</i> , 2021, 322, 114890.	2.3	53
34	Size-dependent shear buckling response of FGM skew nanoplates modeled via different homogenization schemes. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2020, 41, 587-604.	1.9	52
35	Postbuckling analysis of hydrostatic pressurized FGM microsized shells including strain gradient and stress-driven nonlocal effects. <i>Engineering With Computers</i> , 2021, 37, 1549-1564.	3.5	48
36	Damping characteristics of carbon nanotube reinforced epoxy nanocomposite beams. <i>Thin-Walled Structures</i> , 2021, 166, 108127.	2.7	46

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37	Finite element study on elastic transition in platelet reinforced composites. <i>Microsystem Technologies</i> , 2018, 24, 2663-2671.	1.2	45
38	Development of an accurate molecular mechanics model for buckling behavior of multi-walled carbon nanotubes under axial compression. <i>Journal of Molecular Graphics and Modelling</i> , 2016, 65, 43-60.	1.3	44
39	Free vibration analysis of polyethylene/CNT plates. <i>European Physical Journal Plus</i> , 2019, 134, 1.	1.2	44
40	Isogeometric couple stress continuum-based linear and nonlinear flexural responses of functionally graded composite microplates with variable thickness. <i>Archives of Civil and Mechanical Engineering</i> , 2021, 21, 1.	1.9	44
41	Surface stress effect on the nonlinear free vibrations of functionally graded composite nanoshells in the presence of modal interaction. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , 2020, 42, 1.	0.8	43
42	A comparison for the non-classical plate model based on axial buckling of single-layered graphene sheets. <i>European Physical Journal Plus</i> , 2019, 134, 1.	1.2	42
43	On size-dependent large-amplitude free oscillations of FGPM nanoshells incorporating vibrational mode interactions. <i>Archives of Civil and Mechanical Engineering</i> , 2020, 20, 1.	1.9	42
44	Determination of thermoelastic stress wave propagation in nanocomposite sandwich plates reinforced by clusters of carbon nanotubes. <i>Journal of Sandwich Structures and Materials</i> , 2021, 23, 884-905.	2.0	40
45	Isogeometric nonlinear bending analysis of porous FG composite microplates with a central cutout modeled by the couple stress continuum quasi-3D plate theory. <i>Archives of Civil and Mechanical Engineering</i> , 2021, 21, 1.	1.9	40
46	Nonlinear vibration analysis of fiber metal laminated plates with multiple viscoelastic layers. <i>Thin-Walled Structures</i> , 2021, 168, 108297.	2.7	40
47	Couple stress-based dynamic stability analysis of functionally graded composite truncated conical microshells with magnetostrictive facesheets embedded within nonlinear viscoelastic foundations. <i>Engineering With Computers</i> , 2021, 37, 1635-1655.	3.5	39
48	Surface stress size dependency in nonlinear free oscillations of FGM quasi-3D nanoplates having arbitrary shapes with variable thickness using IGA. <i>Thin-Walled Structures</i> , 2021, 166, 108101.	2.7	39
49	Dynamic responses of corrugated cylindrical shells subjected to nonlinear low-velocity impact. <i>Aerospace Science and Technology</i> , 2022, 121, 107321.	2.5	39
50	Recent Developments in Palm Fibers Composites: A Review. <i>Journal of Polymers and the Environment</i> , 2020, 28, 3029-3054.	2.4	37
51	Thermally induced instability on asymmetric buckling analysis of pinned-fixed FG-GPLRC arches. <i>Engineering Structures</i> , 2022, 250, 113243.	2.6	36
52	Elastic buckling analysis of polygonal thin sheets under compression. <i>Indian Journal of Physics</i> , 2019, 93, 47-52.	0.9	35
53	Isogeometric nonlocal strain gradient quasi-three-dimensional plate model for thermal postbuckling of porous functionally graded microplates with central cutout with different shapes. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2021, 42, 771-786.	1.9	35
54	An Automatic Image Processing Algorithm Based on Crack Pixel Density for Pavement Crack Detection and Classification. <i>International Journal of Pavement Research and Technology</i> , 2022, 15, 159-172.	1.3	35

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55	A couple-stress-based moving Kriging meshfree shell model for axial postbuckling analysis of random checkerboard composite cylindrical microshells. <i>Thin-Walled Structures</i> , 2022, 170, 108631.	2.7	34
56	Buckling analysis of CNT-reinforced beams with arbitrary boundary conditions. <i>Microsystem Technologies</i> , 2017, 23, 5079-5091.	1.2	33
57	Ultrasonic machining of carbon fiber-reinforced plastic composites: a review. <i>International Journal of Advanced Manufacturing Technology</i> , 2021, 113, 3079-3120.	1.5	31
58	Buckling mode transition in nonlinear strain gradient-based stability behavior of axial-thermal-electrical loaded FG piezoelectric cylindrical panels at microscale. <i>Engineering Analysis With Boundary Elements</i> , 2022, 141, 36-64.	2.0	31
59	Investigate the importance of mechanical properties of SWCNT on doxorubicin anti-cancer drug adsorption for medical application: A molecular dynamic study. <i>Journal of Molecular Graphics and Modelling</i> , 2020, 101, 107745.	1.3	29
60	Prediction effect of ethanol molecules on doxorubicin drug delivery using single-walled carbon nanotube carrier through POPC cell membrane. <i>Journal of Molecular Liquids</i> , 2021, 330, 115698.	2.3	29
61	Microstructural-dependent nonlinear stability analysis of random checkerboard reinforced composite micropanels via moving Kriging meshfree approach. <i>European Physical Journal Plus</i> , 2021, 136, 1.	1.2	29
62	Quasi-3D large deflection nonlinear analysis of isogeometric FGM microplates with variable thickness via nonlocal stress-strain gradient elasticity. <i>Engineering With Computers</i> , 2022, 38, 3691-3704.	3.5	27
63	Couple stress-based nonlinear primary resonant dynamics of FGM composite truncated conical microshells integrated with magnetostrictive layers. <i>Applied Mathematics and Mechanics (English)</i> 10.1007/s00033-021-01491-4	1.0	24
64	Microwave-assisted sol-gel synthesis of TiO ₂ -mixed metal oxide nanocatalyst for degradation of organic pollutant. <i>Nanotechnology Reviews</i> , 2021, 10, 126-136.	2.6	26
65	Combined axial and lateral stability behavior of random checkerboard reinforced cylindrical microshells via a couple stress-based moving Kriging meshfree model. <i>Archives of Civil and Mechanical Engineering</i> , 2022, 22, 1.	1.9	26
66	Modeling and simulation of the elastic properties of natural fiber-reinforced thermosets. <i>Polymer Composites</i> , 2021, 42, 3508-3517.	2.3	25
67	Nonlinear buckling mode transition analysis in nonlocal couple stress-based stability of FG piezoelectric nanoshells under thermo-electromechanical load. <i>Mechanics of Advanced Materials and Structures</i> , 2023, 30, 3385-3405.	1.5	24
68	A comprehensive review on the vibration analyses of small-scaled plate-based structures by utilizing the nonclassical continuum elasticity theories. <i>Thin-Walled Structures</i> , 2022, 179, 109622.	2.7	24
69	Nonlinear Vibrational Analysis of Nanobeams Embedded in an Elastic Medium including Surface Stress Effects. <i>Advances in Materials Science and Engineering</i> , 2015, 2015, 1-7.	1.0	23
70	Nonlinear buckling mode transition analysis of axial-thermal-electrical-loaded FG piezoelectric nanopanels incorporating nonlocal and couple stress tensors. <i>Archives of Civil and Mechanical Engineering</i> , 2022, 22, 1.	1.9	22
71	Surface elastic-based nonlinear bending analysis of functionally graded nanoplates with variable thickness. <i>European Physical Journal Plus</i> , 2021, 136, 1.	1.2	21
72	Microstructural Size Dependency in Nonlinear Lateral Stability of Random Reinforced Microshells via Meshfree-Based Applied Mathematical Modeling. <i>International Journal of Structural Stability and Dynamics</i> , 2021, 21, .	1.5	21

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73	A comparative experimental study on damping properties of epoxy nanocomposite beams reinforced with carbon nanotubes and graphene nanoplatelets. <i>Nanotechnology Reviews</i> , 2022, 11, 1658-1669.	2.6	21
74	Probabilistic-based nonlinear stability analysis of randomly reinforced microshells under combined axial-lateral load using meshfree strain gradient formulations. <i>Engineering Structures</i> , 2022, 262, 114344.	2.6	21
75	Nonlinear oscillations of elliptical and sector prefabricated nanoplate-type structures made of functionally graded building material. <i>Physica Scripta</i> , 2021, 96, 115704.	1.2	20
76	Nonlinear stability of axially compressed couple stress-based composite micropanels reinforced with random checkerboard nanofillers. <i>Physica Scripta</i> , 2021, 96, 125703.	1.2	20
77	Predicting phonon scattering and tunable thermal conductivity of 3D pillared graphene and boron nitride heterostructure. <i>International Journal of Heat and Mass Transfer</i> , 2021, 172, 121145.	2.5	19
78	A unified modeling approach for rotating flexible shaft-disk systems with general boundary and coupling conditions. <i>International Journal of Mechanical Sciences</i> , 2022, 218, 107073.	3.6	19
79	Boundary layer modeling of surface residual tension in postbuckling behavior of axially loaded silicon panels at nanoscale embedded in elastic foundations. <i>Mechanics Based Design of Structures and Machines</i> , 2020, , 1-18.	3.4	18
80	On the NURBS-based isogeometric analysis for couple stress-based nonlinear instability of PFGM microplates. <i>Mechanics Based Design of Structures and Machines</i> , 2023, 51, 816-840.	3.4	18
81	Nonlinear Large-Amplitude Oscillations of PFG Composite Rectangular Microplates Based Upon the Modified Strain Gradient Elasticity Theory. <i>International Journal of Structural Stability and Dynamics</i> , 2022, 22, .	1.5	17
82	Nonlinear free vibrations of porous composite microplates incorporating various microstructural-dependent strain gradient tensors. <i>Applied Mathematics and Mechanics (English)</i> Tj ETQq0 0 0 rgBI.#Overlock710 Tf 50		
83	The experimental study of CFRP interlayer of dissimilar joint AA7075-T651/Ti-6Al-4V alloys by friction stir spot welding on mechanical and microstructural properties. <i>Nanotechnology Reviews</i> , 2021, 10, 401-413.	2.6	16
84	On wave propagation of rotating viscoelastic nanobeams with temperature effects by using modified couple stress-based nonlocal Eringen's theory. <i>Engineering With Computers</i> , 2022, 38, 2681-2701.	3.5	14
85	Calcium carbonate nanoparticles effects on cement plast properties. <i>Microsystem Technologies</i> , 2021, 27, 3059-3076.	1.2	14
86	Nonlinear Stability Characteristics of Porous Graded Composite Microplates Including Various Microstructural-Dependent Strain Gradient Tensors. <i>International Journal of Applied Mechanics</i> , 2022, 14, .	1.3	14
87	State-of-the-Art of Vibration Analysis of Small-Sized Structures by using Nonclassical Continuum Theories of Elasticity. <i>Archives of Computational Methods in Engineering</i> , 2022, 29, 4959-5147.	6.0	13
88	Meshfree-based applied mathematical modeling for nonlinear stability analysis of couple stress-based lateral pressurized randomly reinforced microshells. <i>Engineering With Computers</i> , 2022, 38, 3523-3538.	3.5	12
89	Free Vibrational Response of Single-Layered Graphene Sheets Embedded in an Elastic Matrix using Different Nonlocal Plate Models. <i>Mechanika</i> , 2017, 23, .	0.3	12
90	Modified strain gradient-based nonlinear building sustainability of porous functionally graded composite microplates with and without cutouts using IGA. <i>Engineering With Computers</i> , 2023, 39, 2147-2167.	3.5	12

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91	Prediction of properties of friction stir spot welded joints of AA7075-T651/Ti-6Al-4V alloy using machine learning algorithms. Archives of Civil and Mechanical Engineering, 2022, 22, 1.	1.9	12
92	Maximization of the output power of low concentrating photovoltaic systems by the application of reflecting mirrors. Renewable Energy, 2022, 189, 822-835.	4.3	12
93	Friction stir spot welding of AA5052 with additional carbon fiber-reinforced polymer composite interlayer. Nanotechnology Reviews, 2021, 10, 201-209.	2.6	11
94	Size-dependent nonlinear harmonically soft excited oscillations of nonlocal strain gradient FGM composite truncated conical microshells with magnetostrictive facesheets. Mechanics Based Design of Structures and Machines, 2023, 51, 1-27.	3.4	8
95	Effect of Carbon Nanotubes and Porosity on Vibrational Behavior of Nanocomposite Structures: A Review. Archives of Computational Methods in Engineering, 2022, 29, 2621-2657.	6.0	8
96	Quasi-3D nonlinear flexural response of isogeometric functionally graded CNT-reinforced plates with various shapes with variable thicknesses. Mechanics Based Design of Structures and Machines, 0, , 1-25.	3.4	7
97	Modeling Study of Propane/Propylene Membrane Separation Using CFD Method. Macromolecular Theory and Simulations, 2021, 30, 2000092.	0.6	6
98	Enhanced removal efficiency of heavy metal ions from wastewater through functionalized silicon carbide membrane: A theoretical study. Journal of Water Process Engineering, 2021, 44, 102413.	2.6	6
99	Influence of couple stress size dependency in thermal instability of porous functionally graded composite microplates having different central cutouts. Waves in Random and Complex Media, 0, , 1-30.	1.6	6
100	Recent developments in tensile properties of friction welding of carbon fiber-reinforced composite: A review. Nanotechnology Reviews, 2022, 11, 1408-1436.	2.6	6
101	An Experimental and Metamodeling Approach to Tensile Properties of Natural Fibers Composites. Journal of Polymers and the Environment, 2022, 30, 4377-4393.	2.4	6
102	Grain boundary elimination by twinning and dislocation nucleation in front of intergranular crack tips in BCC iron. Materials and Design, 2022, 215, 110515.	3.3	5
103	Evaluating the Impacts of Speed Limit Increases on Rural Two-Lane Highways Using Quantile Regression. Transportation Research Record, 2021, 2675, 740-753.	1.0	4
104	Orientation effect on intergranular fracture behaviors along symmetrical tilt grain boundaries in bcc iron. Materials Today Communications, 2021, 29, 102981.	0.9	3
105	NURBS isogeometric-based nonlinear flexural analysis of quasi-3D surface elastic porous nanoplates. Waves in Random and Complex Media, 0, , 1-29.	1.6	3
106	Solidification and microstructure characterizations of eutectic aluminum-silicon casting alloy with the addition of tin. Materialwissenschaft Und Werkstofftechnik, 2021, 52, 871-878.	0.5	2
107	Couple stress-based moving Kriging meshfree shell model for nonlinear free oscillations of random checkerboard reinforced microshells. Engineering With Computers, 2023, 39, 1519-1536.	3.5	2
108	Effect of Increasing Solar Radiation Reflected with Mirrors Perpendicularly on the Power Output of Photovoltaic System with Cooling. IOP Conference Series: Earth and Environmental Science, 2022, 1050, 012002.	0.2	0