Amir Barati Farimani

List of Publications by Year
in descending order

68	3,856	159525 30	128225 60
papers	citations	h-index	g-index

72	72	72	5014
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Adaptive grey wolf optimizer. Neural Computing and Applications, 2022, 34, 7711-7731.	3.2	40
2	VecMetaPy: A vectorized framework for metaheuristic optimization in Python. Advances in Engineering Software, 2022, 166, 103092.	1.8	3
3	Molecular contrastive learning of representations via graph neural networks. Nature Machine Intelligence, 2022, 4, 279-287.	8.3	181
4	Graph neural network-accelerated Lagrangian fluid simulation. Computers and Graphics, 2022, 103, 201-211.	1.4	26
5	Online metaheuristic algorithm selection. Expert Systems With Applications, 2022, 201, 117058.	4.4	6
6	Activation Pathways of Neurotensin Receptor 1 Elucidated Using Statistical Machine Learning. ACS Chemical Neuroscience, 2022, 13, 1333-1341.	1.7	4
7	Forecasting COVID-19 new cases using deep learning methods. Computers in Biology and Medicine, 2022, 144, 105342.	3.9	61
8	Graph neural networks accelerated molecular dynamics. Journal of Chemical Physics, 2022, 156, 144103.	1.2	19
9	Simultaneous Electrochemical Exfoliation and Covalent Functionalization of MoS₂ Membrane for Ion Sieving. Advanced Materials, 2022, 34, e2201416.	11.1	45
10	MeltpoolNet: Melt pool characteristic prediction in Metal Additive Manufacturing using machine learning. Additive Manufacturing, 2022, 55, 102817.	1.7	13
11	Prediction of GPCR activity using machine learning. Computational and Structural Biotechnology Journal, 2022, 20, 2564-2573.	1.9	16
12	Improving Molecular Contrastive Learning via Faulty Negative Mitigation and Decomposed Fragment Contrast. Journal of Chemical Information and Modeling, 2022, 62, 2713-2725.	2.5	26
13	Dominant motion identification of multi-particle system using deep learning from video. Neural Computing and Applications, 2022, 34, 18183-18193.	3.2	4
14	Reduced thermal conductivity of supported and encased monolayer and bilayer MoS₂. 2D Materials, 2021, 8, 011001.	2.0	29
15	StressGAN: A Generative Deep Learning Model for Two-Dimensional Stress Distribution Prediction. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	1.1	47
16	Potential neutralizing antibodies discovered for novel corona virus using machine learning. Scientific Reports, 2021, 11, 5261.	1.6	62
17	DNA Detection with Single-Layer Ti₃C₂ MXene Nanopore. ACS Nano, 2021, 15, 4861-4869.	7.3	35
18	Deep learning of material transport in complex neurite networks. Scientific Reports, 2021, 11, 11280.	1.6	7

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19	Titanium Carbide MXene for Water Desalination: A Molecular Dynamics Study. ACS Applied Nano Materials, 2021, 4, 6145-6151.	2.4	44
20	Efficient water desalination with graphene nanopores obtained using artificial intelligence. Npj 2D Materials and Applications, 2021, 5, .	3.9	36
21	Deep reinforcement learning for predicting kinetic pathways to surface reconstruction in a ternary alloy. Machine Learning: Science and Technology, 2021, 2, 045018.	2.4	14
22	Data-driven identification of 2D Partial Differential Equations using extracted physical features. Computer Methods in Applied Mechanics and Engineering, 2021, 381, 113831.	3.4	8
23	Graph convolutional networks applied to unstructured flow field data. Machine Learning: Science and Technology, 2021, 2, 045020.	2.4	21
24	Isolating Specific vs. Non-Specific Binding Responses in Conducting Polymer Biosensors for Bio-Fingerprinting. Sensors, 2021, 21, 6335.	2.1	2
25	Ozark Graphene Nanopore for Efficient Water Desalination. Journal of Physical Chemistry B, 2021, 125, 11256-11263.	1.2	26
26	Deep learning for reduced order modelling and efficient temporal evolution of fluid simulations. Physics of Fluids, 2021, 33, .	1.6	52
27	Understanding mutation hotspots for the SARS-CoV-2 spike protein using Shannon Entropy and K-means clustering. Computers in Biology and Medicine, 2021, 138, 104915.	3.9	31
28	Heteroatom-Doped Transition Metal Nitrides for CO Electrochemical Reduction: A Density Functional Theory Screening Study. Journal of Physical Chemistry C, 2020, 124, 26344-26351.	1.5	8
29	Why is Single-Layer MoS₂ a More Energy Efficient Membrane for Water Desalination?. ACS Energy Letters, 2020, 5, 2217-2222.	8.8	78
30	A Review on Challenges and Successes in Atomic-Scale Design of Catalysts for Electrochemical Synthesis of Hydrogen Peroxide. ACS Catalysis, 2020, 10, 7495-7511.	5.5	254
31	Machine Learning Force Fields and Coarse-Grained Variables in Molecular Dynamics: Application to Materials and Biological Systems. Journal of Chemical Theory and Computation, 2020, 16, 4757-4775.	2.3	120
32	Reaction diffusion system prediction based on convolutional neural network. Scientific Reports, 2020, 10, 3894.	1.6	34
33	Orbital graph convolutional neural network for material property prediction. Physical Review Materials, 2020, 4, .	0.9	64
34	Thermal boundary conductance of two-dimensional MoS2 interfaces. Journal of Applied Physics, 2019, 126, .	1.1	32
35	Bio-inspired Stochastic Growth and Initialization for Artificial Neural Networks. Lecture Notes in Computer Science, 2019, , 88-100.	1.0	0
36	Water Desalination with Two-Dimensional Metalâ€“Organic Framework Membranes. Nano Letters, 2019, 19, 8638-8643.	4.5	119

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37	Thermal transport in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mm from molecular dynamics using different empirical potentials. Physical Review B, 2019, 99, .	3.7	50
38	Machine Learning Based Approaches to Accelerate Energy Materials Discovery and Optimization. ACS Energy Letters, 2019, 4, 187-191.	8.8	24
39	Binding Pathway of Opiates to Î¼-Opioid Receptors Revealed by Machine Learning. Biophysical Journal, 2018, 114, 62a-63a.	0.2	9
40	Identification of amino acids with sensitive nanoporous MoS2: towards machine learning-based prediction. Npj 2D Materials and Applications, 2018, 2, .	3.9	47
41	Energy Dissipation in Monolayer MoS₂ Electronics. Nano Letters, 2017, 17, 3429-3433.	4.5	177
42	Antibody Subclass Detection Using Graphene Nanopores. Journal of Physical Chemistry Letters, 2017, 8, 1670-1676.	2.1	25
43	DNA Origamiâ€“Graphene Hybrid Nanopore for DNA Detection. ACS Applied Materials & Interfaces, 2017, 9, 92-100.	4.0	88
44	Solution-Phase Conformation and Dynamics of Conjugated Isoindigo-Based Donorâ€“Acceptor Polymer Single Chains. Journal of Physical Chemistry Letters, 2017, 8, 5479-5486.	2.1	24
45	Dissolution of Monocrystalline Silicon Nanomembranes and Their Use as Encapsulation Layers and Electrical Interfaces in Water-Soluble Electronics. ACS Nano, 2017, 11, 12562-12572.	7.3	82
46	Thermal boundary conductance of the MOS<inf>2</inf>-SiO<inf>2</inf> interface. , 2017, , .		2
47	Nano-electro-mechanical pump: Giant pumping of water in carbon nanotubes. Scientific Reports, 2016, 6, 26211.	1.6	17
48	Existence of Multiple Phases of Water at Nanotube Interfaces. Journal of Physical Chemistry C, 2016, 120, 23763-23771.	1.5	49
49	Ultrathin, transferred layers of thermally grown silicon dioxide as biofluid barriers for biointegrated flexible electronic systems. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11682-11687.	3.3	175
50	Computational Approach to Designing Antibody for Ebola Virus. Biophysical Journal, 2016, 110, 537a.	0.2	3
51	Mechanically modulated electronic properties of water-filled fullerenes. MRS Communications, 2015, 5, 305-310.	0.8	8
52	Silicon Nanomembranes: Mechanisms for Hydrolysis of Silicon Nanomembranes as Used in Bioresorbable Electronics (Adv. Mater. 11/2015). Advanced Materials, 2015, 27, 1856-1856.	11.1	3
53	Multiscale modeling of droplet interface bilayer membrane networks. Biomicrofluidics, 2015, 9, 064101.	1.2	13
54	Functionality of MscL in Droplet Interface Bilayer. Biophysical Journal, 2015, 108, 373a.	0.2	0

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55	Adsorption Kinetics Dictate Monolayer Self-Assembly for Both Lipid-In and Lipid-Out Approaches to Droplet Interface Bilayer Formation. Langmuir, 2015, 31, 12883-12893.	1.6	58
56	Electromechanical Signatures for DNA Sequencing through a Mechanosensitive Nanopore. Journal of Physical Chemistry Letters, 2015, 6, 650-657.	2.1	19
57	Mechanisms for Hydrolysis of Silicon Nanomembranes as Used in Bioresorbable Electronics. Advanced Materials, 2015, 27, 1857-1864.	11.1	98
58	Water desalination with a single-layer MoS2 nanopore. Nature Communications, 2015, 6, 8616.	5.8	604
59	Thermodynamic insight into spontaneous hydration and rapid water permeation in aquaporins. Applied Physics Letters, 2014, 105, 083702.	1.5	27
60	Thermodynamics of Water Entry in Aquaporins. Biophysical Journal, 2014, 106, 559a.	0.2	0
61	DNA Base Detection Using a Single-Layer MoS₂. ACS Nano, 2014, 8, 7914-7922.	7.3	305
62	Rotational motion of a single water molecule in a buckyball. Physical Chemistry Chemical Physics, 2013, 15, 17993.	1.3	56
63	The Role of External Defects in Chemical Sensing of Graphene Field-Effect Transistors. Nano Letters, 2013, 13, 1962-1968.	4.5	125
64	Mechanical behavior of water filled C60. Applied Physics Letters, 2013, 103, .	1.5	8
65	Spatial Diffusion of Water in Carbon Nanotubes: From Fickian to Ballistic Motion. Journal of Physical Chemistry B, 2011, 115, 12145-12149.	1.2	153
66	Computational modeling of the wind erosion on a sinusoidal pile using a moving boundary method. Geomorphology, 2011, 130, 299-311.	1.1	13
67	Numerical and experimental analysis of wind erosion on a sinusoidal pile. Environmental Fluid Mechanics, 2011, 11, 167-181.	0.7	9
68	A study on the measurement of mean velocity and its convergence in molecular dynamics simulations. International Journal for Numerical Methods in Fluids, 2011, 67, 2130-2140.	0.9	9