Lu Lu

List of Publications by Year
in descending order

31 papers	5,378 citations	331670 21 h-index	434195 31 g-index
32 all docs	32 docs citations	32 times ranked	1910 citing authors

#	Article	IF	Citations
1	Physics-informed machine learning. Nature Reviews Physics, 2021, 3, 422-440.	26.6	1,789
2	DeepXDE: A Deep Learning Library for Solving Differential Equations. SIAM Review, 2021, 63, 208-228.	9.5	677
3	Learning nonlinear operators via DeepONet based on the universal approximation theorem of operators. Nature Machine Intelligence, 2021, 3, 218-229.	16.0	589
4	fPINNs: Fractional Physics-Informed Neural Networks. SIAM Journal of Scientific Computing, 2019, 41, A2603-A2626.	2.8	365
5	Physics-informed neural networks for inverse problems in nano-optics and metamaterials. Optics Express, 2020, 28, 11618.	3.4	257
6	Quantifying total uncertainty in physics-informed neural networks for solving forward and inverse stochastic problems. Journal of Computational Physics, 2019, 397, 108850.	3.8	212
7	Extraction of mechanical properties of materials through deep learning from instrumented indentation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7052-7062.	7.1	178
8	Physics-Informed Neural Networks with Hard Constraints for Inverse Design. SIAM Journal of Scientific Computing, 2021, 43, B1105-B1132.	2.8	167
9	Gradient-enhanced physics-informed neural networks for forward and inverse PDE problems. Computer Methods in Applied Mechanics and Engineering, 2022, 393, 114823.	6.6	148
10	Systems biology informed deep learning for inferring parameters and hidden dynamics. PLoS Computational Biology, 2020, 16, e1007575.	3.2	133
11	Dying ReLU and Initialization: Theory and Numerical Examples. Communications in Computational Physics, 2020, 28, 1671-1706.	1.7	112
12	Mechanics of diseased red blood cells in human spleen and consequences for hereditary blood disorders. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9574-9579.	7.1	93
13	DeepM&Mnet: Inferring the electroconvection multiphysics fields based on operator approximation by neural networks. Journal of Computational Physics, 2021, 436, 110296.	3.8	92
14	A comprehensive and fair comparison of two neural operators (with practical extensions) based on FAIR data. Computer Methods in Applied Mechanics and Engineering, 2022, 393, 114778.	6.6	92
15	Operator learning for predicting multiscale bubble growth dynamics. Journal of Chemical Physics, 2021, 154, 104118.	3.0	71
16	DeepM&Mnet for hypersonics: Predicting the coupled flow and finite-rate chemistry behind a normal shock using neural-network approximation of operators. Journal of Computational Physics, 2021, 447, 110698.	3.8	55
17	Deep transfer learning and data augmentation improve glucose levels prediction in type 2 diabetes patients. Npj Digital Medicine, 2021, 4, 109.	10.9	48
18	OpenRBC: A Fast Simulator of Red Blood Cells atÂProtein Resolution. Biophysical Journal, 2017, 112, 2030-2037.	0.5	47

#	Article	IF	Citations
19	Cytoskeleton Remodeling Induces Membrane Stiffness and Stability Changes of Maturing Reticulocytes. Biophysical Journal, 2018, 114, 2014-2023.	0.5	46
20	Multifidelity deep neural operators for efficient learning of partial differential equationsÂwith application to fast inverse design of nanoscale heat transport. Physical Review Research, 2022, 4, .	3.6	41
21	Quantifying the generalization error in deep learning in terms of data distribution and neural network smoothness. Neural Networks, 2020, 130, 85-99.	5.9	23
22	Probing the Twisted Structure of Sickle Hemoglobin Fibers via Particle Simulations. Biophysical Journal, 2016, 110, 2085-2093.	0.5	22
23	How the spleen reshapes and retains young and old red blood cells: A computational investigation. PLoS Computational Biology, 2021, 17, e1009516.	3.2	22
24	Quantitative prediction of erythrocyte sickling for the development of advanced sickle cell therapies. Science Advances, 2019, 5, eaax3905.	10.3	18
25	Mesoscopic Adaptive Resolution Scheme toward Understanding of Interactions between Sickle Cell Fibers. Biophysical Journal, 2017, 113, 48-59.	0.5	16
26	Modeling biomembranes and red blood cells by coarse-grained particle methods. Applied Mathematics and Mechanics (English Edition), 2018, 39, 3-20.	3.6	16
27	Synergistic Integration of Laboratory and Numerical Approaches in Studies of the Biomechanics of Diseased Red Blood Cells. Biosensors, 2018, 8, 76.	4.7	16
28	Approximation rates of DeepONets for learning operators arising from advectionâ€"diffusion equations. Neural Networks, 2022, 153, 411-426.	5.9	15
29	Recognizing human actions by two-level Beta process hidden Markov model. Multimedia Systems, 2017, 23, 183-194.	4.7	8
30	Understanding the Twisted Structure of Amyloid Fibrils via Molecular Simulations. Journal of Physical Chemistry B, 2018, 122, 11302-11310.	2.6	6
31	A method for action recognition based on pose and interest points. Multimedia Tools and Applications, 2015, 74, 6091-6109.	3.9	1