Paris Perdikaris

List of Publications by Year
in descending order

29 papers	5,743 citations	331538 21 h-index	477173 29 g-index
29 all docs	29 docs citations	29 times ranked	2450 citing authors

#	Article	IF	Citations
1	When and why PINNs fail to train: A neural tangent kernel perspective. Journal of Computational Physics, 2022, 449, 110768.	1.9	262
2	Fast Characterization of Inducible Regions of Atrial Fibrillation Models With Multi-Fidelity Gaussian Process Classification. Frontiers in Physiology, 2022, 13, 757159.	1.3	3
3	Output-weighted sampling for multi-armed bandits with extreme payoffs. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, .	1.0	5
4	Improved Architectures and Training Algorithms for Deep Operator Networks. Journal of Scientific Computing, 2022, 92, .	1.1	17
5	Gaussian processes meet NeuralODEs: a Bayesian framework for learning the dynamics of partially observed systems from scarce and noisy data. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, .	1.6	10
6	Multiscale Modeling Meets Machine Learning: What Can We Learn?. Archives of Computational Methods in Engineering, 2021, 28, 1017-1037.	6.0	164
7	Deep learning of free boundary and Stefan problems. Journal of Computational Physics, 2021, 428, 109914.	1.9	41
8	Physics-Informed Neural Networks for Heat Transfer Problems. Journal of Heat Transfer, 2021, 143, .	1.2	304
9	Physics-informed machine learning. Nature Reviews Physics, 2021, 3, 422-440.	11.9	1,789
10	Accurate artificial boundary conditions for semi-discretized one-dimensional peridynamics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	1.0	3
11	COVID-19 dynamics across the US: A deep learning study of human mobility and social behavior. Computer Methods in Applied Mechanics and Engineering, 2021, 382, 113891.	3.4	32
12	On the eigenvector bias of Fourier feature networks: From regression to solving multi-scale PDEs with physics-informed neural networks. Computer Methods in Applied Mechanics and Engineering, 2021, 384, 113938.	3.4	148
13	Learning the solution operator of parametric partial differential equations with physics-informed DeepONets. Science Advances, 2021, 7, eabi8605.	4.7	168
14	Understanding and Mitigating Gradient Flow Pathologies in Physics-Informed Neural Networks. SIAM Journal of Scientific Computing, 2021, 43, A3055-A3081.	1.3	385
15	Machine learning in cardiovascular flows modeling: Predicting arterial blood pressure from non-invasive 4D flow MRI data using physics-informed neural networks. Computer Methods in Applied Mechanics and Engineering, 2020, 358, 112623.	3.4	275
16	Physicsâ€Informed Deep Neural Networks for Learning Parameters and Constitutive Relationships in Subsurface Flow Problems. Water Resources Research, 2020, 56, e2019WR026731.	1.7	194
17	Hydrodynamic and frictional modulation of deformations in switchable colloidal crystallites. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12700-12706.	3.3	4
18	Bayesian differential programming for robust systems identification under uncertainty. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200290.	1.0	18

#	Article	IF	Citations
19	Machine Learning of Space-Fractional Differential Equations. SIAM Journal of Scientific Computing, 2019, 41, A2485-A2509.	1.3	32
20	Multi-fidelity classification using Gaussian processes: Accelerating the prediction of large-scale computational models. Computer Methods in Applied Mechanics and Engineering, 2019, 357, 112602.	3.4	31
21	Adversarial uncertainty quantification in physics-informed neural networks. Journal of Computational Physics, 2019, 394, 136-152.	1.9	210
22	Conditional deep surrogate models for stochastic, high-dimensional, and multi-fidelity systems. Computational Mechanics, 2019, 64, 417-434.	2.2	29
23	Physics-constrained deep learning for high-dimensional surrogate modeling and uncertainty quantification without labeled data. Journal of Computational Physics, 2019, 394, 56-81.	1.9	510
24	Machine learning in drug development: Characterizing the effect of 30 drugs on the QT interval using Gaussian process regression, sensitivity analysis, and uncertainty quantification. Computer Methods in Applied Mechanics and Engineering, 2019, 348, 313-333.	3.4	76
25	Integrating machine learning and multiscale modelingâ€”perspectives, challenges, and opportunities in the biological, biomedical, and behavioral sciences. Npj Digital Medicine, 2019, 2, 115.	5.7	319
26	Numerical Gaussian Processes for Time-Dependent and Nonlinear Partial Differential Equations. SIAM Journal of Scientific Computing, 2018, 40, A172-A198.	1.3	162
27	A probabilistic framework for multidisciplinary design: Application to the hydrostructural optimization of supercavitating hydrofoils. International Journal for Numerical Methods in Engineering, 2018, 116, 246-269.	1.5	7
28	Inferring solutions of differential equations using noisy multi-fidelity data. Journal of Computational Physics, 2017, 335, 736-746.	1.9	202
29	Machine learning of linear differential equations using Gaussian processes. Journal of Computational Physics, 2017, 348, 683-693.	1.9	343