Yoshua Bengio

List of Publications by Year
in descending order

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Version: 2024-02-01

85	72,787	71102 41	79698 73
papers	citations	h-index	g-index

92	92	92	71961
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Deep learning. Nature, 2015, 521, 436-444.	27.8	52,813
2	Representation Learning: A Review and New Perspectives. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 1798-1828.	13.9	8,225
3	Brain tumor segmentation with Deep Neural Networks. Medical Image Analysis, 2017, 35, 18-31.	11.6	2,234
4	The One Hundred Layers Tiramisu: Fully Convolutional DenseNets for Semantic Segmentation. , 2017, , .		934
5	Inference for the Generalization Error. Machine Learning, 2003, 52, 239-281.	5.4	612
6	Representational Power of Restricted Boltzmann Machines and Deep Belief Networks. Neural Computation, 2008, 20, 1631-1649.	2.2	591
7	A deep learning framework for neuroscience. Nature Neuroscience, 2019, 22, 1761-1770.	14.8	563
8	Machine learning for combinatorial optimization: A methodological tour dâ€™horizon. European Journal of Operational Research, 2021, 290, 405-421.	5.7	484
9	A semantic matching energy function for learning with multi-relational data. Machine Learning, 2014, 94, 233-259.	5.4	463
10	Toward Causal Representation Learning. Proceedings of the IEEE, 2021, 109, 612-634.	21.3	327
11	Gradient-Based Optimization of Hyperparameters. Neural Computation, 2000, 12, 1889-1900.	2.2	321
12	Describing Multimedia Content Using Attention-Based Encoder-Decoder Networks. IEEE Transactions on Multimedia, 2015, 17, 1875-1886.	7.2	297
13	Plug & Play Generative Networks: Conditional Iterative Generation of Images in Latent Space. , 2017, , .		288
14	EmoNets: Multimodal deep learning approaches for emotion recognition in video. Journal on Multimodal User Interfaces, 2016, 10, 99-111.	2.9	276
15	Learning Eigenfunctions Links Spectral Embedding and Kernel PCA. Neural Computation, 2004, 16, 2197-2219.	2.2	246
16	Learning deep physiological models of affect. IEEE Computational Intelligence Magazine, 2013, 8, 20-33.	3.2	229
17	Online and offline handwritten Chinese character recognition: A comprehensive study and new benchmark. Pattern Recognition, 2017, 61, 348-360.	8.1	228
18	Kernel Matching Pursuit. Machine Learning, 2002, 48, 165-187.	5.4	227

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19	Light Gated Recurrent Units for Speech Recognition. IEEE Transactions on Emerging Topics in Computational Intelligence, 2018, 2, 92-102.	4.9	227
20	Boosting Neural Networks. Neural Computation, 2000, 12, 1869-1887.	2.2	209
21	Equilibrium Propagation: Bridging the Gap between Energy-Based Models and Backpropagation. Frontiers in Computational Neuroscience, 2017, 11, 24.	2.1	183
22	Learning normalized inputs for iterative estimation in medical image segmentation. Medical Image Analysis, 2018, 44, 1-13.	11.6	181
23	Fine-grained attention mechanism for neural machine translation. Neurocomputing, 2018, 284, 171-176.	5.9	149
24	ReSeg: A Recurrent Neural Network-Based Model for Semantic Segmentation. , 2016, , .		145
25	Justifying and Generalizing Contrastive Divergence. Neural Computation, 2009, 21, 1601-1621.	2.2	143
26	Deep Belief Networks Are Compact Universal Approximators. Neural Computation, 2010, 22, 2192-2207.	2.2	123
27	BigBrain 3D atlas of cortical layers: Cortical and laminar thickness gradients diverge in sensory and motor cortices. PLoS Biology, 2020, 18, e3000678.	5.6	120
28	Adaptive Importance Sampling to Accelerate Training of a Neural Probabilistic Language Model. IEEE Transactions on Neural Networks, 2008, 19, 713-722.	4.2	116
29	The need for privacy with public digital contact tracing during the COVID-19 pandemic. The Lancet Digital Health, 2020, 2, e342-e344.	12.3	106
30	LeRec: A NN/HMM Hybrid for On-Line Handwriting Recognition. Neural Computation, 1995, 7, 1289-1303.	2.2	95
31	Collaborative Filtering on a Family of Biological Targets. Journal of Chemical Information and Modeling, 2006, 46, 626-635.	5.4	90
32	Use machine learning to find energy materials. Nature, 2017, 552, 23-27.	27.8	85
33	Model Selection for Small Sample Regression. Machine Learning, 2002, 48, 9-23.	5.4	84
34	Learning to Understand Phrases by Embedding the Dictionary. Transactions of the Association for Computational Linguistics, 2016, 4, 17-30.	4.8	81
35	A hybrid Pareto model for asymmetric fat-tailed data: the univariate case. Extremes, 2009, 12, 53-76.	1.0	69
36	Deep convolutional networks for quality assessment of protein folds. Bioinformatics, 2018, 34, 4046-4053.	4.1	69

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37	On integrating a language model into neural machine translation. Computer Speech and Language, 2017, 45, 137-148.	4.3	64
38	STDP-Compatible Approximation of Backpropagation in an Energy-Based Model. Neural Computation, 2017, 29, 555-577.	2.2	56
39	Context-dependent word representation for neural machine translation. Computer Speech and Language, 2017, 45, 149-160.	4.3	55
40	DECISION TREES DO NOT GENERALIZE TO NEW VARIATIONS. Computational Intelligence, 2010, 26, 449-467.	3.2	54
41	Selective Small Molecule Peptidomimetic Ligands of TrkC and TrkA Receptors Afford Discrete or Complete Neurotrophic Activities. Chemistry and Biology, 2005, 12, 1015-1028.	6.0	53
42	Gated Orthogonal Recurrent Units: On Learning to Forget. Neural Computation, 2019, 31, 765-783.	2.2	48
43	How does hemispheric specialization contribute to human-defining cognition?. Neuron, 2021, 109, 2075-2090.	8.1	47
44	Tell, Draw, and Repeat: Generating and Modifying Images Based on Continual Linguistic Instruction. , 2019, , .		46
45	Multi-way, multilingual neural machine translation. Computer Speech and Language, 2017, 45, 236-252.	4.3	45
46	Quickly Generating Representative Samples from an RBM-Derived Process. Neural Computation, 2011, 23, 2058-2073.	2.2	43
47	Inherent privacy limitations of decentralized contact tracing apps. Journal of the American Medical Informatics Association: JAMIA, 2021, 28, 193-195.	4.4	41
48	Toward Training Recurrent Neural Networks for Lifelong Learning. Neural Computation, 2020, 32, 1-35.	2.2	39
49	The representational geometry of word meanings acquired by neural machine translation models. Machine Translation, 2017, 31, 3-18.	1.3	36
50	Bias learning, knowledge sharing. IEEE Transactions on Neural Networks, 2003, 14, 748-765.	4.2	35
51	Learning the dynamic nature of speech with back-propagation for sequences. Pattern Recognition Letters, 1992, 13, 375-385.	4.2	34
52	Nonlocal Estimation of Manifold Structure. Neural Computation, 2006, 18, 2509-2528.	2.2	32
53	Depth with nonlinearity creates no bad local minima in ResNets. Neural Networks, 2019, 118, 167-174.	5.9	31
54	Bias in Estimating the Variance of K-Fold Cross-Validation. , 2005, , 75-95.		29

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55	Using a Financial Training Criterion Rather than a Prediction Criterion. International Journal of Neural Systems, 1997, 08, 433-443.	5.2	28
56	Dynamic Neural Turing Machine with Continuous and Discrete Addressing Schemes. Neural Computation, 2018, 30, 857-884.	2.2	26
57	Interpolated Adversarial Training. , 2019, , .		25
58	Combined Reinforcement Learning via Abstract Representations. Proceedings of the AAAI Conference on Artificial Intelligence, 2019, 33, 3582-3589.	4.9	23
59	CACHE (Critical Assessment of Computational Hit-finding Experiments): A publicâ€“private partnership benchmarking initiative to enable the development of computational methods for hit-finding. Nature Reviews Chemistry, 2022, 6, 287-295.	30.2	22
60	On the Morality of Artificial Intelligence [Commentary]. IEEE Technology and Society Magazine, 2020, 39, 16-25.	0.8	21
61	GSNs: generative stochastic networks. Information and Inference, 2016, 5, 210-249.	1.6	19
62	Phonetically-based multi-layered neural networks for vowel classification. Speech Communication, 1990, 9, 15-29.	2.8	18
63	Alternative time representation in dopamine models. Journal of Computational Neuroscience, 2010, 28, 107-130.	1.0	17
64	Towards Non-Saturating Recurrent Units for Modelling Long-Term Dependencies. Proceedings of the AAAI Conference on Artificial Intelligence, 2019, 33, 3280-3287.	4.9	16
65	On the challenge of learning complex functions. Progress in Brain Research, 2007, 165, 521-534.	1.4	13
66	Predicting Tactical Solutions to Operational Planning Problems Under Imperfect Information. INFORMS Journal on Computing, 2022, 34, 227-242.	1.7	13
67	Robust Regression with Asymmetric Heavy-Tail Noise Distributions. Neural Computation, 2002, 14, 2469-2496.	2.2	11
68	A Hybrid Pareto Mixture for Conditional Asymmetric Fat-Tailed Distributions. IEEE Transactions on Neural Networks, 2009, 20, 1087-1101.	4.2	11
69	Conditioning and time representation in long short-term memory networks. Biological Cybernetics, 2014, 108, 23-48.	1.3	10
70	Equivalence of Equilibrium Propagation and Recurrent Backpropagation. Neural Computation, 2019, 31, 312-329.	2.2	10
71	Tractable Multivariate Binary Density Estimation and the Restricted Boltzmann Forest. Neural Computation, 2010, 22, 2285-2307.	2.2	9
72	On the Iterative Refinement of Densely Connected Representation Levels for Semantic Segmentation. , 2018, , .		9

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73	Phonetically motivated acoustic parameters for continuous speech recognition using artificial neural networks. Speech Communication, 1992, 11, 261-271.	2.8	8
74	DETONATION CLASSIFICATION FROM ACOUSTIC SIGNATURE WITH THE RESTRICTED BOLTZMANN MACHINE. Computational Intelligence, 2012, 28, 261-288.	3.2	8
75	Learning semantic representations of objects and their parts. Machine Learning, 2014, 94, 281-301.	5.4	8
76	Generating Multiscale Amorphous Molecular Structures Using Deep Learning: A Study in 2D. Journal of Physical Chemistry Letters, 2020, 11, 8532-8537.	4.6	8
77	On random weights for texture generation in one layer CNNS. , 2017, , .		5
78	Suitability of V1 Energy Models for Object Classification. Neural Computation, 2011, 23, 774-790.	2.2	4
79	Joint Learning of Generative Translator and Classifier for Visually Similar Classes. IEEE Access, 2020, 8, 219160-219173.	4.2	3
80	Use of multilayer networks for the recognition of phonetic features and phonemes. Computational Intelligence, 1989, 5, 134-141.	3.2	2
81	Guest Introduction: Special Issue on New Methods for Model Selection and Model Combination. Machine Learning, 2002, 48, 5-7.	5.4	2
82	Stochastic Learning of Strategic Equilibria for Auctions. Neural Computation, 1999, 11, 1199-1209.	2.2	1
83	Ghost Units Yield Biologically Plausible Backprop in Deep Neural Networks. , 2018, , .		1
84	Les donnÃ©es au service du savoir. Gestion: Revue Internationale De Gestion, 2017, Vol. 42, 68-70.	0.0	0
85	CAMAP: Artificial neural networks unveil the role of codon arrangement in modulating MHC-I peptides presentation. PLoS Computational Biology, 2021, 17, e1009482.	3.2	0