# learning (artificial intelligence)

view online
Report generated from year 2013 to 2021

Articles published

274935 articles published with this Controlled term between **2013 - 2021**
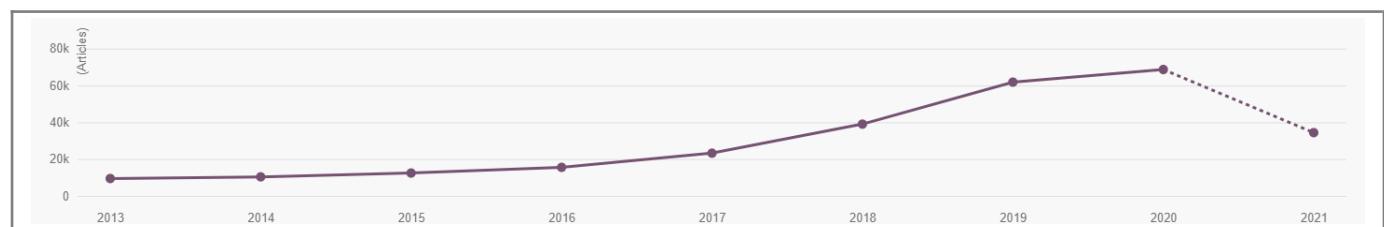
Articles published % change

Between **2013 - 2020** article output increased **626.88%**

Times cited

Articles published with this controlled term between **2013 - 2021** have been cited **305229** times, with an average of **1.11** citations per article

Controlled term over time

#	Year	Articles	% Change	Times cited	Avg times cited
1	2013	9451	n/a	39053	4.13
2	2014	10367	9.69%	44066	4.25
3	2015	12431	19.91%	52797	4.25
4	2016	15525	24.89%	46137	2.97
5	2017	23238	49.68%	55150	2.37
6	2018	39017	67.90%	43898	1.13
7	2019	61834	58.48%	18812	0.30
8	2020	68697	11.10%	4938	0.07
9	2021	34375	n/a	378	0.01

Co-occurring concepts

#	Controlled terms	Articles	
1	neural nets	55591	
2	feature extraction	48477	
3	pattern classification	39457	
4	image classification	35412	
5	support vector machines	20802	
6	convolutional neural nets	20016	
7	medical image processing	18594	
8	regression analysis	16814	
9	image segmentation	16122	
10	object detection	15730	
11	optimisation	14333	
12	data mining	14236	
13	natural language processing	12946	
14	diseases	12810	
15	text analysis	12347	
16	image representation	12301	
17	computer vision	11300	
18	recurrent neural nets	11120	
19	graph theory	10028	
20	pattern clustering	9481	

Total terms : 7087

#	Subject classifications	Articles	
1	C6000 - Computer software	220430	
2	C6100 - Software techniques and systems	204576	
3	C6170 - Expert systems and other AI software and techniques	171723	
4	C6170K - Knowledge engineering techniques	171601	
5	C5000 - Computer hardware	158349	
6	C5200 - Logic design and digital techniques	151226	
7	C1000 - Systems and control theory	131495	
8	C7000 - Computer applications	128666	
9	C1100 - Mathematical techniques	125744	
10	B6000 - Communications	124918	
11	C5260 - Digital signal processing	117035	
12	B6100 - Information and communication theory	114615	
13	C5260B - Computer vision and image processing techniques	101460	
14	B6135 - Optical, image and video signal processing	93146	
15	C1140 - Probability and statistics	86487	
16	C6130 - Data handling techniques	82766	
17	C1140Z - Other topics in statistics	76536	
18	C5290 - Neural computing techniques	74081	
19	B0000 - General topics, engineering mathematics and materials science	56035	
20	B0200 - Engineering mathematics and mathematical techniques	54456	

Total codes : 2700
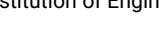
Top organisations

#	Organisations	Articles	
1	**Tsinghua University** Beijing, China academic	3995	
2	**Shanghai Jiao Tong University** Shanghai, China academic	2845	
3	**Nanyang Technological University** Singapore, Singapore academic	2556	
4	**Beijing University of Posts and Telecommunications** Beijing, China academic	2433	
5	**Zhejiang University** Hangzhou, China academic	2352	
6	**Peking University** Beijing, China academic	2256	
7	**University of Electronic Science and Technology of China** Chengdu, China academic	2189	
8	**Beihang University** Beijing, China academic	2087	
9	**Carnegie Mellon University** Pittsburgh, USA academic	2039	
10	**Harbin Institute of Technology** Harbin, China academic	2033	

#	Organisations	Articles	
11	**University of Science and Technology of China** Hefei, China academic	1900	
12	**National University of Defense Technology** Changsha, China academic	1762	
13	**Xidian University** Xian, China academic	1753	
14	**Massachusetts Institute of Technology** Cambridge, USA academic	1744	
15	**Northwestern Polytechnical University** Xi'an, China academic	1743	
16	**Institute of Automation Chinese Academy of Sciences** Beijing, China academic	1709	
17	**Wuhan University** Wuhan, China academic	1658	
18	**Huazhong University of Science and Technology** Wuhan, China academic	1646	
19	**National University of Singapore** Singapore, Singapore academic	1638	
20	**Sun Yat-Sen University** Guangzhou, China academic	1618	

Total organisations : 10802

Journals

#	Journal	Articles	
1	arXiv	34864	
2	IEEE Access	8258	
3	Neurocomputing	2945	
4	Proceedings of SPIE	2475	
5	Journal of Physics: Conference Series	2447	
6	Sensors	1689	
7	Multimedia Tools and Applications	1404	
8	Expert Systems with Applications	1251	
9	IEEE Transactions on Image Processing	1228	
10	IEEE Transactions on Neural Networks and Learning Systems	1144	
11	Proceedings of SPIE - Progress in Biomedical Optics and Imaging	1108	
12	Applied Sciences	1103	
13	IOP Conference Series: Materials Science and Engineering	1060	
14	Pattern Recognition	1052	
15	Remote Sensing	1017	
16	Knowledge-Based Systems	930	
17	Neural Computing and Applications	922	
18	Procedia Computer Science	831	
19	Information Sciences	721	
20	Computer Engineering and Applications	714	

Total journals : 3537

Conferences

#	Conference	Articles	
1	2020 International Joint Conference on Neural Networks (IJCNN)	659	
2	2020 25th International Conference on Pattern Recognition (ICPR)	599	
3	ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). Proceedings	564	
4	2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). Proceedings	511	
5	ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). Proceedings	472	
6	2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). Proceedings	471	
7	2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2021)	467	
8	2019 International Joint Conference on Neural Networks (IJCNN). Proceedings	452	
9	2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition. Proceedings	391	
10	2018 International Joint Conference on Neural Networks (IJCNN)	374	
11	2019 IEEE International Conference on Image Processing (ICIP). Proceedings	361	
12	2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)	350	
13	MM '20: Proceedings of the 28th ACM International Conference on Multimedia	344	
14	2019 IEEE International Conference on Big Data (Big Data)	311	
15	2019 IEEE/CVF International Conference on Computer Vision (ICCV). Proceedings	310	
16	2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)	302	
17	2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR). Proceedings	297	
18	2018 24th International Conference on Pattern Recognition (ICPR)	275	
19	IGARSS 2019 - 2019 IEEE International Geoscience and Remote Sensing Symposium. Proceedings	274	
20	2017 International Joint Conference on Neural Networks (IJCNN)	270	

Total conferences : 15046

Related controlled terms

#	Broader terms	Articles	
1	artificial intelligence	13906	

Total terms : 1

#	Narrower terms	Articles	
1	backpropagation	16160	
2	deep learning (artificial intelligence)	14435	
3	unsupervised learning	13402	
4	nearest neighbour methods	5515	
5	supervised learning	4525	
6	random forests	3966	
7	naive Bayes methods	772	
8	Hebbian learning	464	
9	learning by example	304	

Total terms : 9

#	Related terms	Articles	
1	support vector machines	61710	

#	Related terms		Articles
2	recurrent neural nets	22806	
3	neurocontrollers	15692	
4	decision trees	14766	
5	feedforward neural nets	14528	
6	feature selection	13258	
7	radial basis function networks	10335	
8	multilayer perceptrons	8930	
9	self-organising feature maps	4179	
10	learning systems	4047	
11	independent component analysis	3892	
12	Boltzmann machines	1783	
13	image annotation	904	
14	Hopfield neural nets	882	
15	granular computing	810	
16	learning automata	566	
17	linear discriminant analysis	561	
18	perceptrons	360	
19	chatbots	264	
20	AI chips	205	

Total terms : 23

Related Subject classifications

#	Subject classifications
1	C1230L - Learning in AI
2	C1240 - Adaptive system theory
3	C6260 - Machine learning (artificial intelligence)
4	C6263 - Reinforcement learning
5	C6264 - Neural nets

Total codes : 5