Тема: Использование машинного обучения в промышленности

Ключевые слова:

1. Machine learning

1	Random forests *Открытый доступ*	Breiman, L.	2001	Machine Learning 45(1), с. 5-32	61872
	Просмотр краткого описания ⌄ View at Publisher Связанные документы				
2	Deep learning	Lecun, Y., Bengio, Y., Hinton, G.	2015	Nature 521(7553), с. 436-444	39574
	Просмотр краткого описания ⌄ View at Publisher Связанные документы				
3	Scikit-learn: Machine learning in Python	Pedregosa, F., Varoquaux, G., Gramfort, A., (...), Perrot, M., Duchesnay, É.	2011	Journal of Machine Learning Research 12, с. 2825-2830	37783
	Просмотр краткого описания ⌄ View at Publisher ⓘ Связанные документы				
4	Support-Vector Networks *Открытый доступ*	Cortes, C., Vapnik, V.	1995	Machine Learning 20(3), с. 273-297	35015
	Просмотр краткого описания ⌄ View at Publisher Связанные документы				
5	Gradient-based learning applied to document recognition *Открытый доступ*	LeCun, Y., Bottou, L., Bengio, Y., Haffner, P.	1998	Proceedings of the IEEE 86(11), с. 2278-2323	28601
	Просмотр краткого описания ⌄ View at Publisher Связанные документы				
6	LIBSVM: A Library for support vector machines	Chang, C.-C., Lin, C.-J.	2011	ACM Transactions on Intelligent Systems and Technology 2(3),27	24934
	Просмотр краткого описания ⌄ View at Publisher Связанные документы				

2. Machine learning in industry

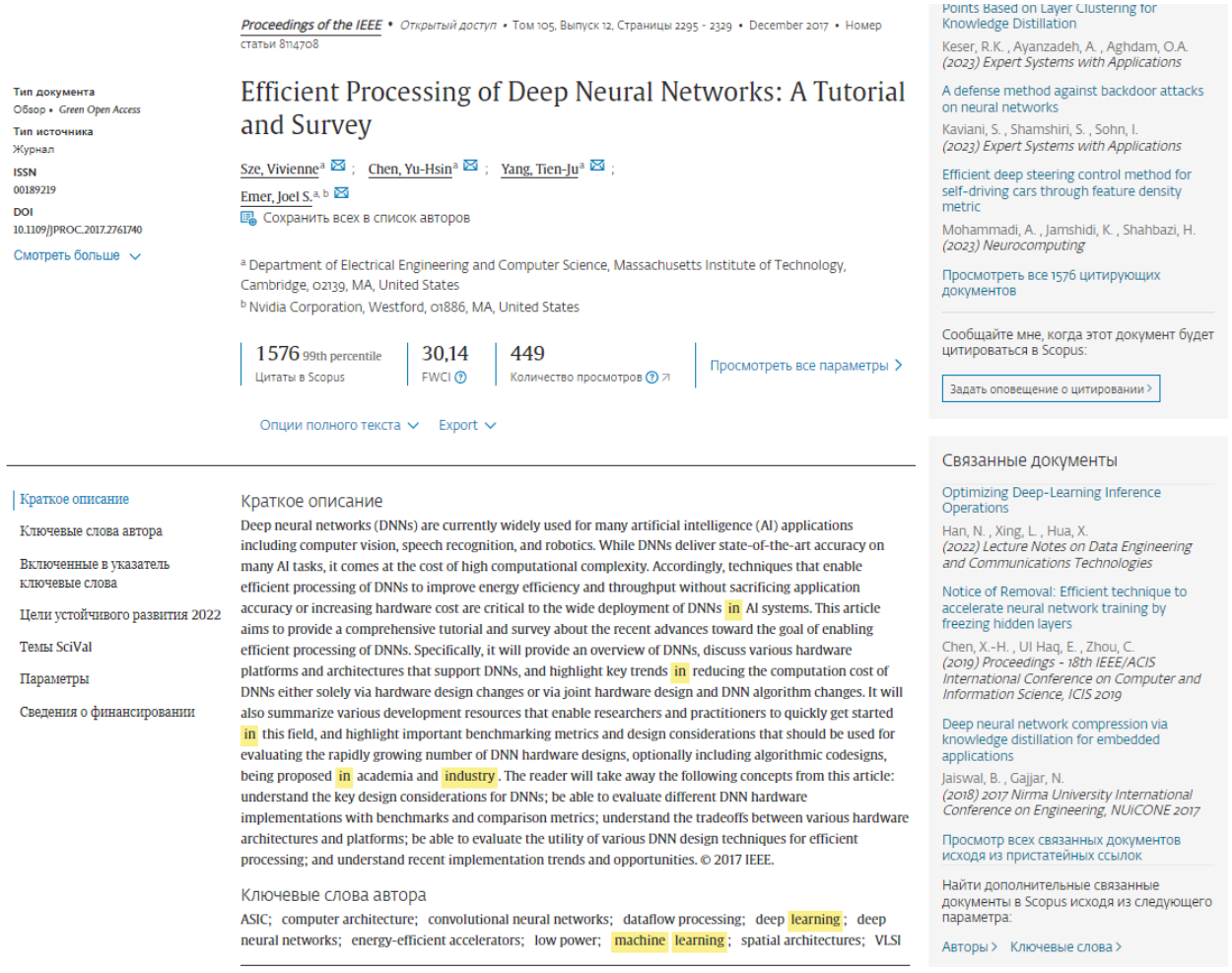
1	Caffe: Convolutional architecture for fast feature embedding	Jia, Y., Shelhamer, E., Donahue, J., (...), Guadarrama, S., Darrell, T.	2014	MM 2014 - Proceedings of the 2014 ACM Conference on Multimedia с. 675-678	7494
	Просмотр краткого описания · View at Publisher · Связанные документы				
2	From data mining to knowledge discovery in databases	Fayyad, U., Piatetsky-Shapiro, G., Smyth, P.	1996	AI Magazine 17(3), с. 37-53	2814
	Просмотр краткого описания · Связанные документы				
3	Efficient Processing of Deep Neural Networks: A Tutorial and Survey *Открытый доступ*	Sze, V., Chen, Y.-H., Yang, T.-J., Emer, J.S.	2017	Proceedings of the IEEE 105(12),8114708, с. 2295-2329	1576
	Просмотр краткого описания · View at Publisher · Связанные документы				
4	Federated machine learning: Concept and applications	Yang, Q., Liu, Y., Chen, T., Tong, Y.	2019	ACM Transactions on Intelligent Systems and Technology 10(2),12	1568
	Просмотр краткого описания · View at Publisher · Связанные документы				
5	Machine learning in medicine *Открытый доступ*	Deo, R.C.	2015	Circulation 132(20), с. 1920-1930	1127
	Просмотр краткого описания · View at Publisher · Связанные документы				
6	Artificial intelligence for fault diagnosis of rotating machinery: A review	Liu, R., Yang, B., Zio, E., Chen, X.	2018	Mechanical Systems and Signal Processing 108, с. 33-47	997
	Просмотр краткого описания · View at Publisher · Связанные документы				

3. Digital industry

1	From PID to active disturbance rejection control	Han, J.	2009	IEEE Transactions on Industrial Electronics 56(3), с. 900-906	4125
	Просмотр краткого описания · View at Publisher · Связанные документы				
2	Electronics using hybrid-molecular and mono-molecular devices	Joachim, C., Gimzewski, J.K., Aviram, A.	2000	Nature 408(6812), с. 541-548	2891
	Просмотр краткого описания · View at Publisher · Связанные документы				
3	Additive manufacturing technologies: Rapid prototyping to direct digital manufacturing (Book) *Открытый доступ*	Gibson, I., Rosen, D.W., Stucker, B.	2010	*Additive Manufacturing Technologies: Rapid Prototyping to Direct Digital Manufacturing* с. 1-459	2541
	Просмотр краткого описания · View at Publisher · Связанные документы				
4	Image correlation for shape, motion and deformation measurements: Basic concepts, theory and applications (Book) *Открытый доступ*	Schreier, H., Orteu, J.-J., Sutton, M.A.	2009	*Image Correlation for Shape, Motion and Deformation Measurements: Basic Concepts,Theory and Applications* с. 1-321	2304
	Просмотр краткого описания · View at Publisher · Связанные документы				
5	Autonomous demand-side management based on game-theoretic energy consumption scheduling for the future smart grid *Открытый доступ*	Mohsenian-Rad, A.-H., Wong, V.W.S., Jatskevich, J., Schober, R., Leon-Garcia, A.	2010	IEEE Transactions on Smart Grid 1(3),5628271, с. 320-331	2146
	Просмотр краткого описания · View at Publisher · Связанные документы				
6	Electronics based on two-dimensional materials	Fiori, G., Bonaccorso, F., Iannaccone, G., (...), Banerjee, S.K., Colombo, L.	2014	Nature Nanotechnology 9(10), с. 768-779	2099
	Просмотр краткого описания · View at Publisher · Связанные документы				

Статьи

1. Sze, Vivienne. Processing of Deep Neural Networks: A Tutorial and Survey / Sze, V., Chen, Y.H., Yang, T.J., Emer I.S. // Proceedings of the IEEE – 2017 – Том 105 – С. 2295-2329



Proceedings of the IEEE • Открытый доступ • Том 105, Выпуск 12, Страницы 2295 - 2329 • December 2017 • Номер статьи 8114708

Efficient Processing of Deep Neural Networks: A Tutorial and Survey

Sze, Vivienne[a] ; Chen, Yu-Hsin[a] ; Yang, Tien-Ju[a] ; Emer, Joel S.[a, b]

Сохранить всех в список авторов

[a] Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, 02139, MA, United States

[b] Nvidia Corporation, Westford, 01886, MA, United States

Тип документа: Обзор • Green Open Access
Тип источника: Журнал
ISSN: 00189219
DOI: 10.1109/JPROC.2017.2761740
Смотреть больше

1576 99th percentile Цитаты в Scopus | 30,14 FWCI | 449 Количество просмотров | Просмотреть все параметры

Опции полного текста | Export

Краткое описание | Ключевые слова автора | Включенные в указатель ключевые слова | Цели устойчивого развития 2022 | Темы SciVal | Параметры | Сведения о финансировании

Краткое описание

Deep neural networks (DNNs) are currently widely used for many artificial intelligence (AI) applications including computer vision, speech recognition, and robotics. While DNNs deliver state-of-the-art accuracy on many AI tasks, it comes at the cost of high computational complexity. Accordingly, techniques that enable efficient processing of DNNs to improve energy efficiency and throughput without sacrificing application accuracy or increasing hardware cost are critical to the wide deployment of DNNs in AI systems. This article aims to provide a comprehensive tutorial and survey about the recent advances toward the goal of enabling efficient processing of DNNs. Specifically, it will provide an overview of DNNs, discuss various hardware platforms and architectures that support DNNs, and highlight key trends in reducing the computation cost of DNNs either solely via hardware design changes or via joint hardware design and DNN algorithm changes. It will also summarize various development resources that enable researchers and practitioners to quickly get started in this field, and highlight important benchmarking metrics and design considerations that should be used for evaluating the rapidly growing number of DNN hardware designs, optionally including algorithmic codesigns, being proposed in academia and industry. The reader will take away the following concepts from this article: understand the key design considerations for DNNs; be able to evaluate different DNN hardware implementations with benchmarks and comparison metrics; understand the tradeoffs between various hardware architectures and platforms; be able to evaluate the utility of various DNN design techniques for efficient processing; and understand recent implementation trends and opportunities. © 2017 IEEE.

Ключевые слова автора

ASIC; computer architecture; convolutional neural networks; dataflow processing; deep learning; deep neural networks; energy-efficient accelerators; low power; machine learning; spatial architectures; VLSI

Points Based on Layer Clustering for Knowledge Distillation
Keser, R.K. , Ayanzadeh, A. , Aghdam, O.A. *(2023) Expert Systems with Applications*

A defense method against backdoor attacks on neural networks
Kaviani, S. , Shamshiri, S. , Sohn, I. *(2023) Expert Systems with Applications*

Efficient deep steering control method for self-driving cars through feature density metric
Mohammadi, A. , Jamshidi, K. , Shahbazi, H. *(2023) Neurocomputing*

Просмотреть все 1576 цитирующих документов

Сообщайте мне, когда этот документ будет цитироваться в Scopus:
Задать оповещение о цитировании

Связанные документы

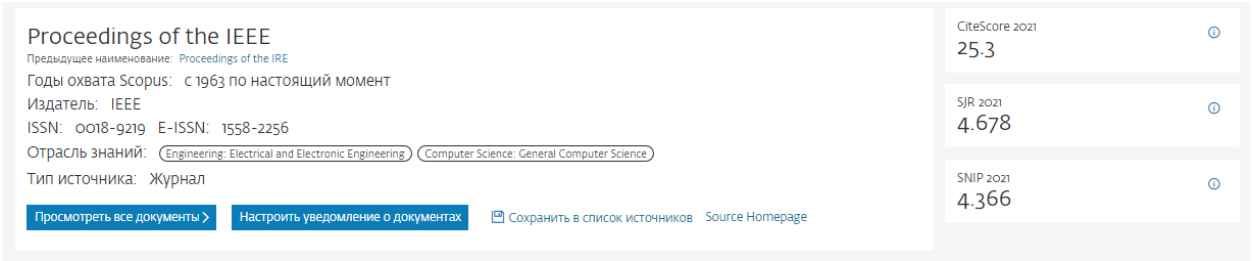
Optimizing Deep-Learning Inference Operations
Han, N. , Xing, L. , Hua, X. *(2022) Lecture Notes on Data Engineering and Communications Technologies*

Notice of Removal: Efficient technique to accelerate neural network training by freezing hidden layers
Chen, X.-H. , Ul Haq, E. , Zhou, C. *(2019) Proceedings - 18th IEEE/ACIS International Conference on Computer and Information Science, ICIS 2019*

Deep neural network compression via knowledge distillation for embedded applications
Jaiswal, B. , Gajjar, N. *(2018) 2017 Nirma University International Conference on Engineering, NUiCONE 2017*

Просмотр всех связанных документов исходя из пристатейных ссылок

Найти дополнительные связанные документы в Scopus исходя из следующего параметра:
Авторы > Ключевые слова >

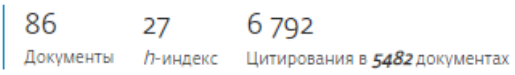


Proceedings of the IEEE
Предыдущее наименование: Proceedings of the IRE
Годы охвата Scopus: с 1963 по настоящий момент
Издатель: IEEE
ISSN: 0018-9219 E-ISSN: 1558-2256
Отрасль знаний: Engineering: Electrical and Electronic Engineering | Computer Science: General Computer Science
Тип источника: Журнал
Просмотреть все документы > | Настроить уведомление о документах | Сохранить в список источников | Source Homepage

CiteScore 2021: 25.3
SJR 2021: 4.678
SNIP 2021: 4.366

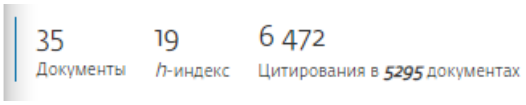
Индекс Хирша авторов:

Sze, Vivienne:

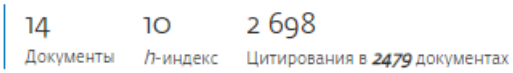


86 Документы | 27 h-индекс | 6 792 Цитирования в 5482 документах

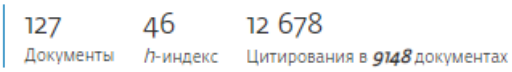
Chen, Yu-Hsin:



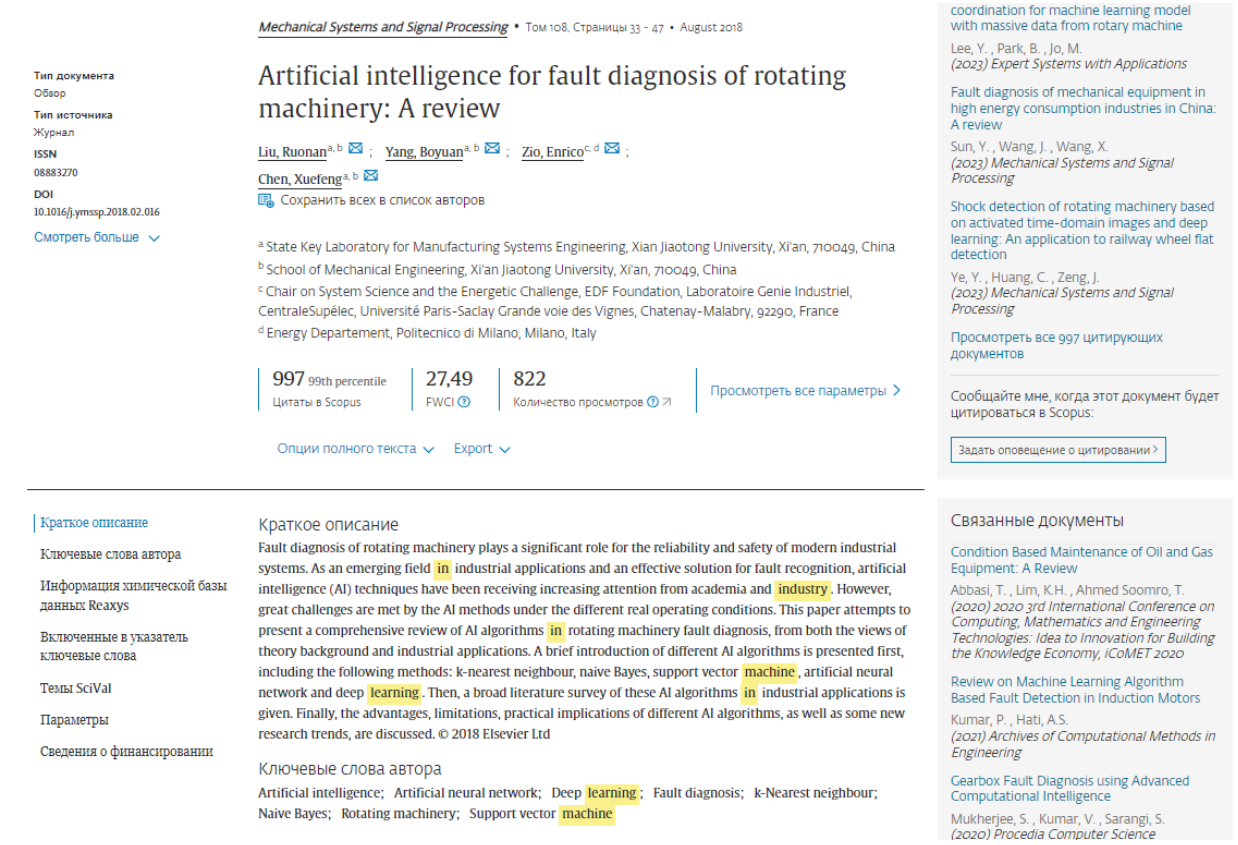
Yang, Tien-Ju:



Emer, Joel S.:

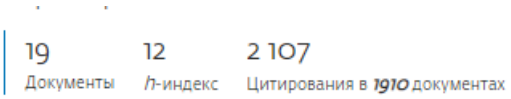


2. Liu, Ruonan. Artificial intelligence for fault diagnosis of rotating machinery: A review / Ruonan L., Boyuan Y., Enrico Z., Xuefeng C. // Mechanical Systems and Signal Processing – 2018 – Том 108 – С. 33-47

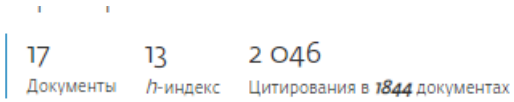


Индекс Хирша авторов:

Liu, Ruonan:

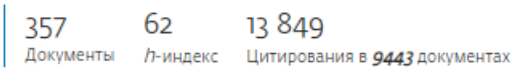


Yang, Boyuan:

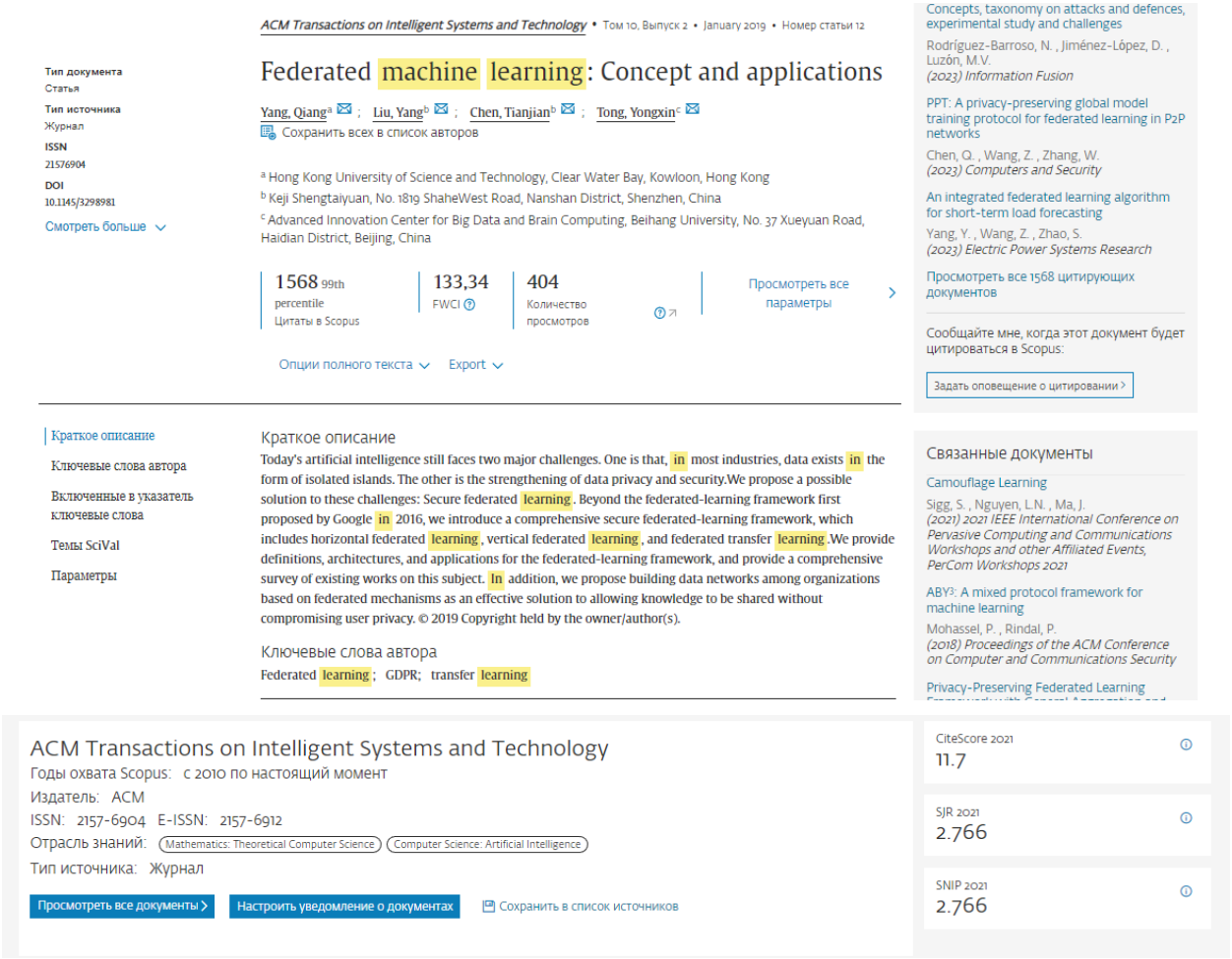


Zio, Enrico:

Chen, Xuefeng:



3. Yang, Qiang. Federated machine learning: Concept and applications / Yang Q., Liu Y., Chen T., Tong Y. // ACM Transactions on Intelligent Systems and Technology – 2019 – Том 10 – № 12



ACM Transactions on Intelligent Systems and Technology • Том 10, Выпуск 2 • January 2019 • Номер статьи 12

Тип документа
Статья
Тип источника
Журнал
ISSN
21576904
DOI
10.1145/3298981
Смотреть больше

Federated machine learning: Concept and applications

Yang, Qiang[a] ; Liu, Yang[b] ; Chen, Tianjian[b] ; Tong, Yongxin[c]
Сохранить всех в список авторов

[a] Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong
[b] Keji Shengtaiyuan, No. 1819 ShaheWest Road, Nanshan District, Shenzhen, China
[c] Advanced Innovation Center for Big Data and Brain Computing, Beihang University, No. 37 Xueyuan Road, Haidian District, Beijing, China

1568 99th percentile Цитаты в Scopus | 133,34 FWCI | 404 Количество просмотров | Просмотреть все параметры

Опции полного текста | Export

Краткое описание
Ключевые слова автора
Включенные в указатель ключевые слова
Темы SciVal
Параметры

Краткое описание
Today's artificial intelligence still faces two major challenges. One is that, in most industries, data exists in the form of isolated islands. The other is the strengthening of data privacy and security.We propose a possible solution to these challenges: Secure federated learning. Beyond the federated-learning framework first proposed by Google in 2016, we introduce a comprehensive secure federated-learning framework, which includes horizontal federated learning, vertical federated learning, and federated transfer learning.We provide definitions, architectures, and applications for the federated-learning framework, and provide a comprehensive survey of existing works on this subject. In addition, we propose building data networks among organizations based on federated mechanisms as an effective solution to allowing knowledge to be shared without compromising user privacy. © 2019 Copyright held by the owner/author(s).

Ключевые слова автора
Federated learning ; GDPR; transfer learning

Concepts, taxonomy on attacks and defences, experimental study and challenges
Rodríguez-Barroso, N. , Jiménez-López, D. , Luzón, M.V.
(2023) Information Fusion

PPT: A privacy-preserving global model training protocol for federated learning in P2P networks
Chen, Q. , Wang, Z. , Zhang, W.
(2023) Computers and Security

An integrated federated learning algorithm for short-term load forecasting
Yang, Y. , Wang, Z. , Zhao, S.
(2023) Electric Power Systems Research

Просмотреть все 1568 цитирующих документов

Сообщайте мне, когда этот документ будет цитироваться в Scopus:
Задать оповещение о цитировании >

Связанные документы

Camouflage Learning
Sigg, S. , Nguyen, L.N. , Ma, J.
(2021) 2021 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events, PerCom Workshops 2021

ABY3: A mixed protocol framework for machine learning
Mohassel, P. , Rindal, P.
(2018) Proceedings of the ACM Conference on Computer and Communications Security

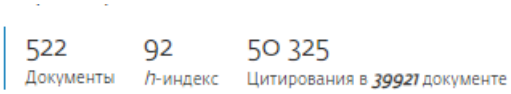
Privacy-Preserving Federated Learning

ACM Transactions on Intelligent Systems and Technology
Годы охвата Scopus: с 2010 по настоящий момент
Издатель: ACM
ISSN: 2157-6904 E-ISSN: 2157-6912
Отрасль знаний: Mathematics: Theoretical Computer Science | Computer Science: Artificial Intelligence
Тип источника: Журнал
Просмотреть все документы > | Настроить уведомление о документах | Сохранить в список источников

CiteScore 2021 11.7
SJR 2021 2.766
SNIP 2021 2.766

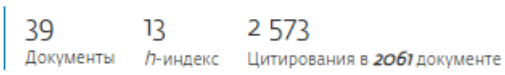
Индекс Хирша авторов:

Yang, Q.:



522 Документы | 92 h-индекс | 50 325 Цитирования в 39921 документе

Liu, Y.:



39 Документы | 13 h-индекс | 2 573 Цитирования в 2061 документе

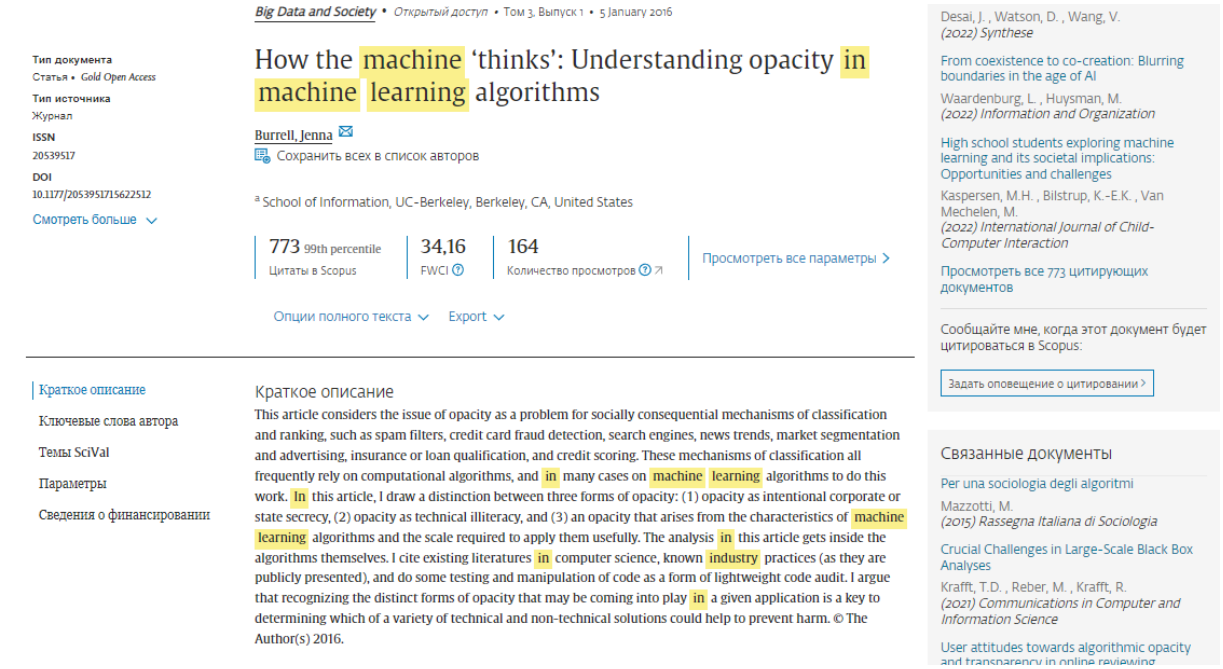
Chen, T.:

23	10	2 055
Документы	*h*-индекс	Цитирования в ***1792*** документах

Tong, Y.:

106	31	4 541
Документы	*h*-индекс	Цитирование в ***3050*** документах

4. Burell J. How the machine ‘thinks’: Understanding opacity in machine learning algorithms / Burrell, Jenna // Big Data and Society – 2016 – Том 3



Тип документа
Статья • Gold Open Access
Тип источника
Журнал
ISSN
20539517
DOI
10.1177/2053951715622512
Смотреть больше

Big Data and Society • Открытый доступ • Том 3, Выпуск 1 • 5 January 2016

How the machine ‘thinks’: Understanding opacity in machine learning algorithms

Burrell, Jenna
Сохранить всех в список авторов

[a] School of Information, UC-Berkeley, Berkeley, CA, United States

773 99th percentile Цитаты в Scopus | 34,16 FWCI | 164 Количество просмотров | Просмотреть все параметры >

Опции полного текста | Export

Краткое описание
Ключевые слова автора
Темы SciVal
Параметры
Сведения о финансировании

Краткое описание

This article considers the issue of opacity as a problem for socially consequential mechanisms of classification and ranking, such as spam filters, credit card fraud detection, search engines, news trends, market segmentation and advertising, insurance or loan qualification, and credit scoring. These mechanisms of classification all frequently rely on computational algorithms, and in many cases on machine learning algorithms to do this work. In this article, I draw a distinction between three forms of opacity: (1) opacity as intentional corporate or state secrecy, (2) opacity as technical illiteracy, and (3) an opacity that arises from the characteristics of machine learning algorithms and the scale required to apply them usefully. The analysis in this article gets inside the algorithms themselves. I cite existing literatures in computer science, known industry practices (as they are publicly presented), and do some testing and manipulation of code as a form of lightweight code audit. I argue that recognizing the distinct forms of opacity that may be coming into play in a given application is a key to determining which of a variety of technical and non-technical solutions could help to prevent harm. © The Author(s) 2016.

Desai, J. , Watson, D. , Wang, V.
(2022) Synthese

From coexistence to co-creation: Blurring boundaries in the age of AI
Waardenburg, L. , Huysman, M.
(2022) Information and Organization

High school students exploring machine learning and its societal implications: Opportunities and challenges
Kaspersen, M.H. , Bilstrup, K.-E.K. , Van Mechelen, M.
(2022) International Journal of Child-Computer Interaction

Просмотреть все 773 цитирующих документов

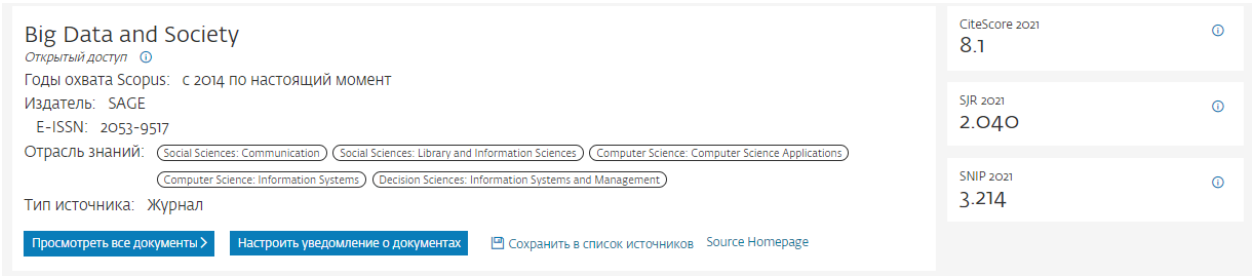
Сообщайте мне, когда этот документ будет цитироваться в Scopus:
Задать оповещение о цитировании >

Связанные документы

Per una sociologia degli algoritmi
Mazzotti, M.
(2015) Rassegna Italiana di Sociologia

Crucial Challenges in Large-Scale Black Box Analyses
Krafft, T.D. , Reber, M. , Krafft, R.
(2021) Communications in Computer and Information Science

User attitudes towards algorithmic opacity and transparency in online reviewing



Big Data and Society
Открытый доступ
Годы охвата Scopus: с 2014 по настоящий момент
Издатель: SAGE
E-ISSN: 2053-9517
Отрасль знаний: Social Sciences: Communication | Social Sciences: Library and Information Sciences | Computer Science: Computer Science Applications | Computer Science: Information Systems | Decision Sciences: Information Systems and Management
Тип источника: Журнал
Просмотреть все документы > | Настроить уведомление о документах | Сохранить в список источников | Source Homepage

CiteScore 2021 8.1
SJR 2021 2.040
SNIP 2021 3.214

Индекс Хирша авторов:

Burell, J.:

33 Документы | 18 h-индекс | 2 332 Цитирования в 2230 документах

5. Ge, Zhiqiang. Data Mining and Analytics in the Process Industry: The Role of Machine Learning / Zhiqiang Ge., Zhihuan S., Steven X. D., Huang B. // IEEE Access – 2017 – Том 5 – С. 20590-20616

IEEE Access • Открытый доступ • Том 5, Страницы 20590 - 20616 • 25 September 2017 • Номер статьи 8051033

Тип документа
Статья • Gold Open Access
Тип источника
Журнал
ISSN
21693536
DOI
10.1109/ACCESS.2017.2756872
Смотреть больше

Data Mining and Analytics in the Process Industry: The Role of Machine Learning

Ge, Zhiqiang[a] ; Song, Zhihuan[a]; Ding, Steven X.[b]; Huang, Biao[c]
Сохранить всех в список авторов

[a] State Key Laboratory of Industrial Control Technology, College of Control Science and Engineering, Zhejiang University, Hangzhou, 310027, China
[b] Institute for Automatic Control and Complex Systems, University of Duisburg-Essen, Duisburg, 47057, Germany
[c] Department of Chemical and Materials Engineering, University of Alberta, Edmonton, T6G2G6, AB, Canada

574 99th percentile — Цитаты в Scopus
42,58 — FWCI
668 — Количество просмотров
Просмотреть все параметры >

Опции полного текста Export

Краткое описание
Ключевые слова автора
Включенные в указатель ключевые слова
Темы SciVal
Параметры
Сведения о финансировании

Краткое описание

Data mining and analytics have played an important role in knowledge discovery and decision making/supports in the process industry over the past several decades. As a computational engine to data mining and analytics, machine learning serves as basic tools for information extraction, data pattern recognition and predictions. From the perspective of machine learning, this paper provides a review on existing data mining and analytics applications in the process industry over the past several decades. The state-of-the-art of data mining and analytics are reviewed through eight unsupervised learning and ten supervised learning algorithms, as well as the application status of semi-supervised learning algorithms. Several perspectives are highlighted and discussed for future researches on data mining and analytics in the process industry. © 2013 IEEE.

process monitoring framework with binary and continuous variables
Wang, M. , Zhou, D. , Chen, M.
(2023) Automatica

Modeling in the observable or latent space? A comparison of dynamic latent variable based monitoring methods for sensor fault detection
Fernandes, N.C.P. , Rato, T.J. , Reis, M.S.
(2022) Chemometrics and Intelligent Laboratory Systems

Weather prediction performance evaluation on selected machine learning algorithms
Abdulraheem, M. , Awotunde, J.B. , Adeniyi, A.E.
(2022) IAES International Journal of Artificial Intelligence

Просмотреть все 574 цитирующих документов

Сообщайте мне, когда этот документ будет цитироваться в Scopus:
Задать оповещение о цитировании >

Связанные документы

Process Data Analytics via Probabilistic Latent Variable Models: A Tutorial Review
Ge, Z.
(2018) Industrial and Engineering Chemistry Research

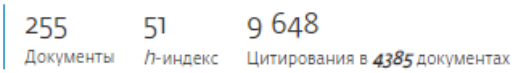
Probabilistic learning of partial least squares regression model: Theory and industrial applications

IEEE Access
Открытый доступ
Годы охвата Scopus: с 2013 по настоящий момент
Издатель: IEEE
ISSN: 2169-3536
Отрасль знаний: Engineering: General Engineering | Computer Science: General Computer Science | Engineering: Electrical and Electronic Engineering | Materials Science: General Materials Science
Тип источника: Журнал
Просмотреть все документы > | Настроить уведомление о документах | Сохранить в список источников | Source Homepage

CiteScore 2021
6.7
SJR 2021
0.927
SNIP 2021
1.326

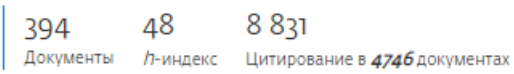
Индекс Хирша авторов:

Ge, Zhiqiang:



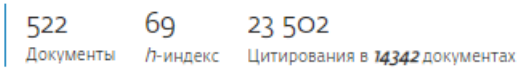
255 Документы | 51 h-индекс | 9 648 Цитирования в 4385 документах

Song, Zhihuan:



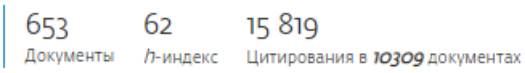
394 Документы | 48 h-индекс | 8 831 Цитирование в 4746 документах

Ding, Steven X.:



522 Документы | 69 h-индекс | 23 502 Цитирования в 14342 документах

Huang, Biao:


653
Документы
62
h-индекс
15 819
Цитирования в 10309 документах

Вывод

Проанализировав поиск англоязычных и русскоязычных статей на тему машинного обучения в промышленности можно сделать вывод, что в англоязычном виде статей ощутимо больше. Но развитие с каждым годом этого направления заметно на обоих сторонах.