AI Related Papers on the Cover of *Nature* or *Science*

（2015.01~2021.07, incomplete survey）

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See more: https://github.com/TOM-ZXian/AI-Related-Papers-Published-in-Nature-or-Science

==AI玩游戏==达到人类水准

Nature封面 2015.02.26

深度强化学习(DQN)+Atari游戏-DeepMind

Mnih V, Kavukcuoglu K, Silver D, et al. Human-level control through ==deep reinforcement learning==[J]. Nature, 2015, 518(7540): 529-533.
https://doi.org/10.1038/nature14236

机器人<mark>适应"残障"</mark>登上 Nature封面-2015.05.28

自适应机器人应对肢体损坏-法 国索邦大学领衔

Cully A, Clune J, Tarapore D, et al. Robots that can adapt like animals[J]. Nature, 2015, 521(7553): 503-507.
https://doi.org/10.1038/nature14422

AI Special Issue登上 Science封面 2015.07.17

https://science.sciencemag.org/content/349/6245

AI举一反三？Human-level概念学习 登上Science封面

2015.12.11

贝叶斯极小样本学习-手写字体层次概念学习-纽约大学领衔

AlphaGo轰动全球

Nature封面 2016.01.28

AI击败人类围棋冠军-DeepMind

Silver D, Huang A, Maddison C J, et al. Mastering the game of Go with deep neural networks and tree search[J]. Nature, 2016, 529(7587): 484-489. doi:10.1038/nature16961
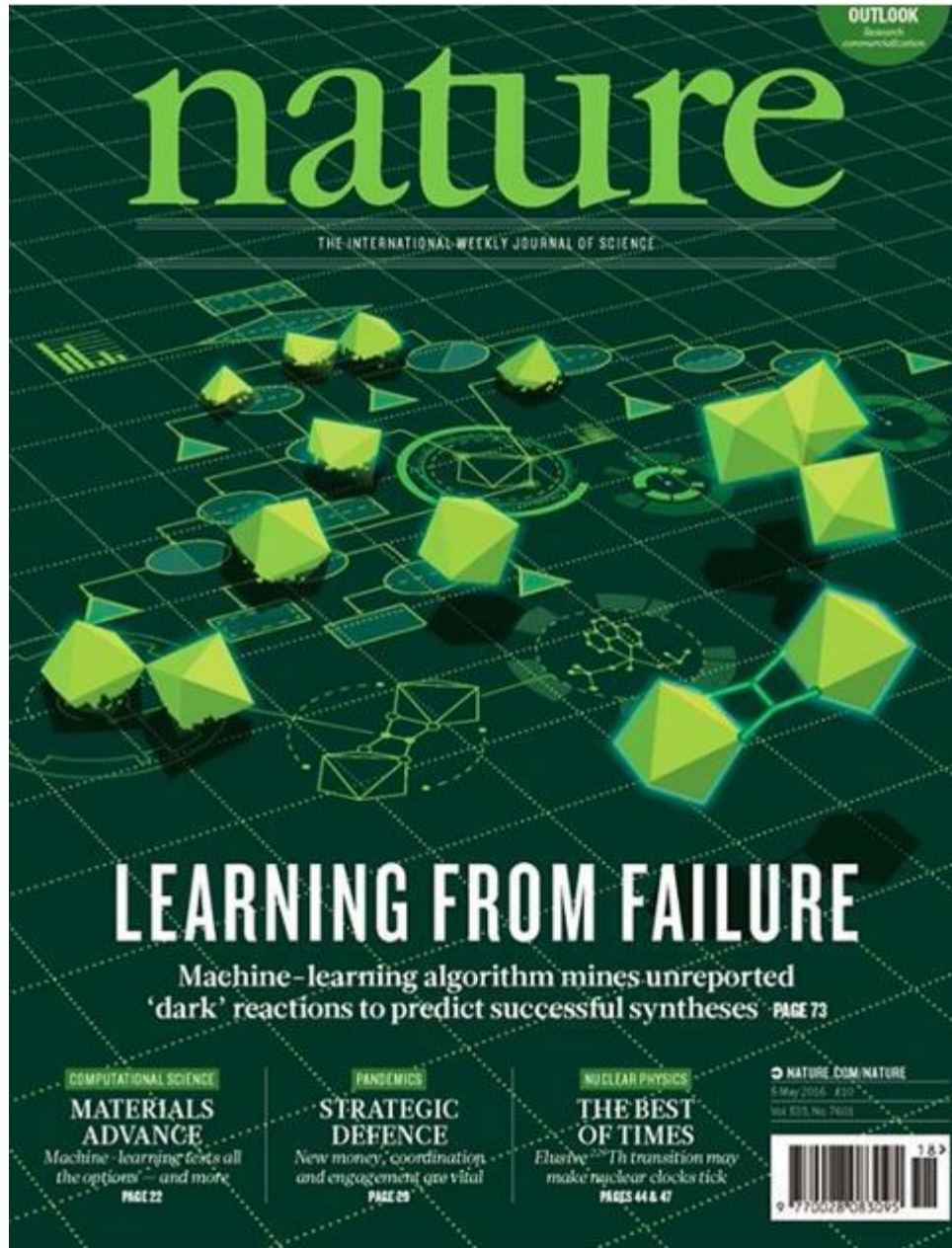
大脑语义地图 登上Nature封面 2016.04.28

绘制出大脑语义地图(985 个英语常用词汇语义)-加州大学伯克利分校

Huth A G，Heer W D，Griffiths T L，et al. Natural speech reveals the semantic maps that tile human cerebral cortex[J]. Nature, 2016, 532(7600):453-458.
https://doi.org/10.1038/nature17637

机器学习将掀起<mark>材料革命</mark>?
Nature封面 2016.05.05

利用"废弃"数据成功预测新材料的合成-哈佛大学

Raccuglia P, Elbert K C, Adler P D F, et al. Machine-learning-assisted <mark>materials discovery</mark> using failed experiments[J]. Nature, 2016, 533(7601): 73-76.

https://doi.org/10.1038/nature17439

AI皮肤癌诊断达专家水平
Nature封面 2017.02.02

深度学习识别皮肤癌-斯坦福大学

Esteva A, Kuprel B, Novoa R A, et al. Dermatologist-level classification of skin cancer with deep neural networks[J]. Nature, 2017, 542(7639): 115-118.
doi:10.1038/nature21056

Prediction Special Issue登上Science封面 2017.02.03

https://science.sciencemag.org/content/355/6324

Robotic observatory makes fast work of astronomy p. 476

A wet route to methanol p. 523

Human noise plagues protected areas p. 531

Science

$15
5 MAY 2017
sciencemag.org

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DIGITAL CARDS WHIZ

AI beats humans at challenging poker variant
p. 508

Cover Paper

AI拿下德州扑克

登上Science封面 2017.05.05

不完美信息博弈里程碑式突破-加拿大阿尔伯塔大学

Moravčík M, Schmid M, Burch N, et al. Deepstack: Expert-level artificial intelligence in heads-up no-limit poker[J]. Science, 2017, 356(6337): 508-513.
doi: 10.1126/science.aam6960

AI有助于 ==群体控制== 登上 Nature封面 2017.05.18

随机 AI 增加人类之间的协作性-耶鲁大学

Shirado H, Christakis N A. Locally noisy ==autonomous agents== improve global human coordination in network experiments[J]. Nature, 2017, 545(7654): 370-374.

https://doi.org/10.1038/nature22332

AI Special Issue登上 Science封面 2017.07.07

https://science.sciencemag.org/content/357/6346

基于**DNA的神经网络** 登上 Nature封面 2018.07.04

DNA竞争网络正确识别"分子"手写数字-加州理工学院

Cherry K M, Qian L. Scaling up molecular pattern recognition with DNA-based winner-take-all neural networks[J]. Nature, 2018, 559(7714): 370-376.

"果蝇"机器人 登上Science封面 2018.09.14

仿果蝇飞行机器人DelFly Nimble-代尔夫特理工大学

Science
14 September 2018

QUICK MANEUVERS
Flapping-wing robot models insect flight pp. 1073 & 1089

AlphaZero登上Science封面
2018.12.07

最强棋类AI通杀三大棋-DeepMind
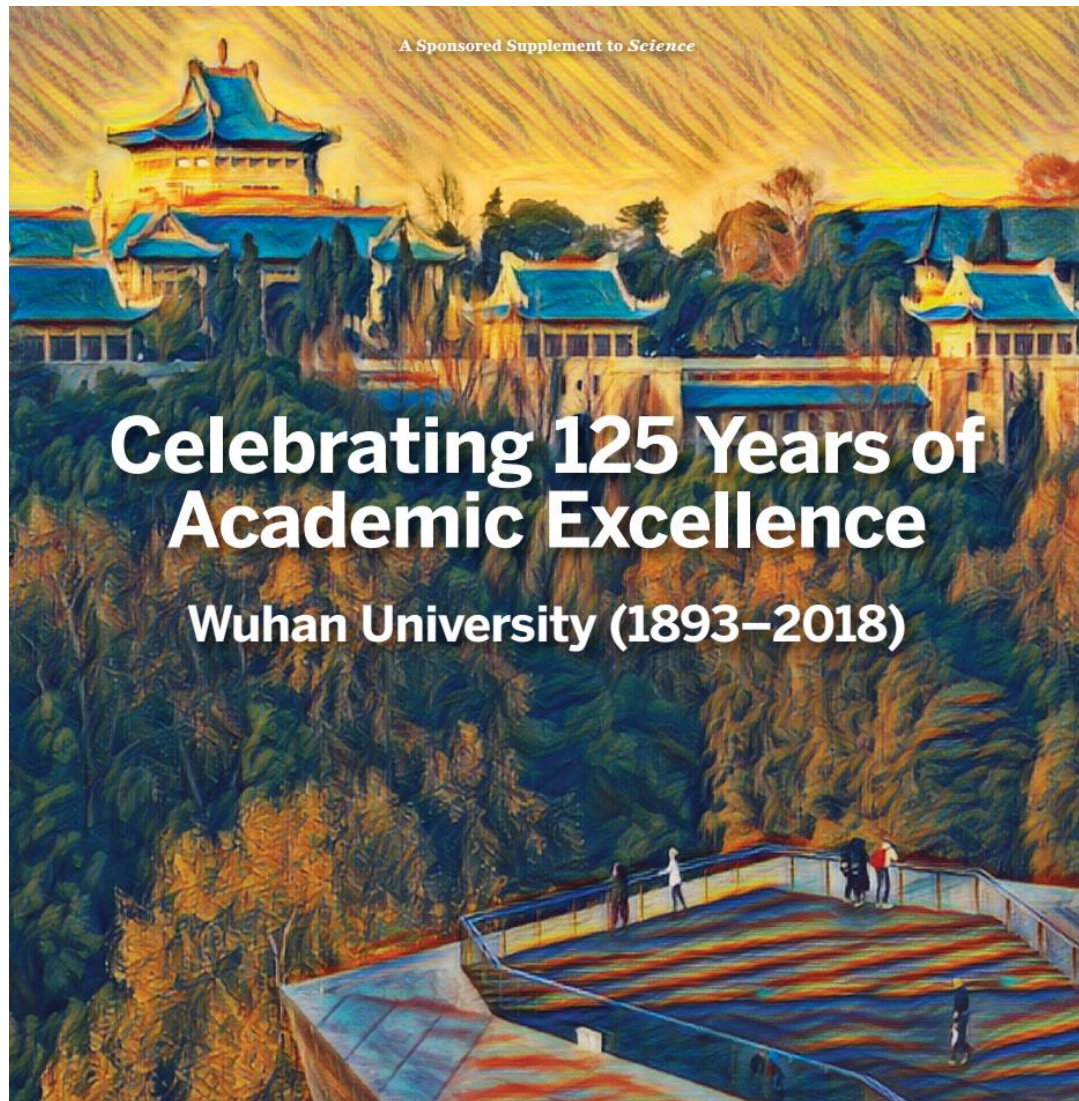
AI画作登上 Science 武大125周年庆Custom Publishing封面 2018.12.28

艺术风格迁移-武大

Celebrating 125 Years Of Academic Excellence: Wuhan University (1893–2018).

https://link.zhihu.com/?target=http%3A//www.sciencemag.org/collections/celebrating-125-years-academic-excellence-wuhan-university-1893-2018

Fossil riches at risk in Utah monument *p. 218*　Guarding the skin *p. 227*　Agriculture reduces bee diversity *p. 282*

Science

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18 JANUARY 2019
sciencemag.org

NANOSCALE
IMAGING
A close-up view inside
the fly brain *p. 245*

果蝇<mark>大脑纳米级成像</mark> 登上 Science封面 2019.01.18

里程碑：看清果蝇大脑的4000万个突触及连接-MIT领衔

Gao R，Asano S M，Upadhyayula S，et al. Cortical column and whole-brain imaging with molecular contrast and nanoscale resolution[J]. Science, 2019, 363(6424):eaau8302.
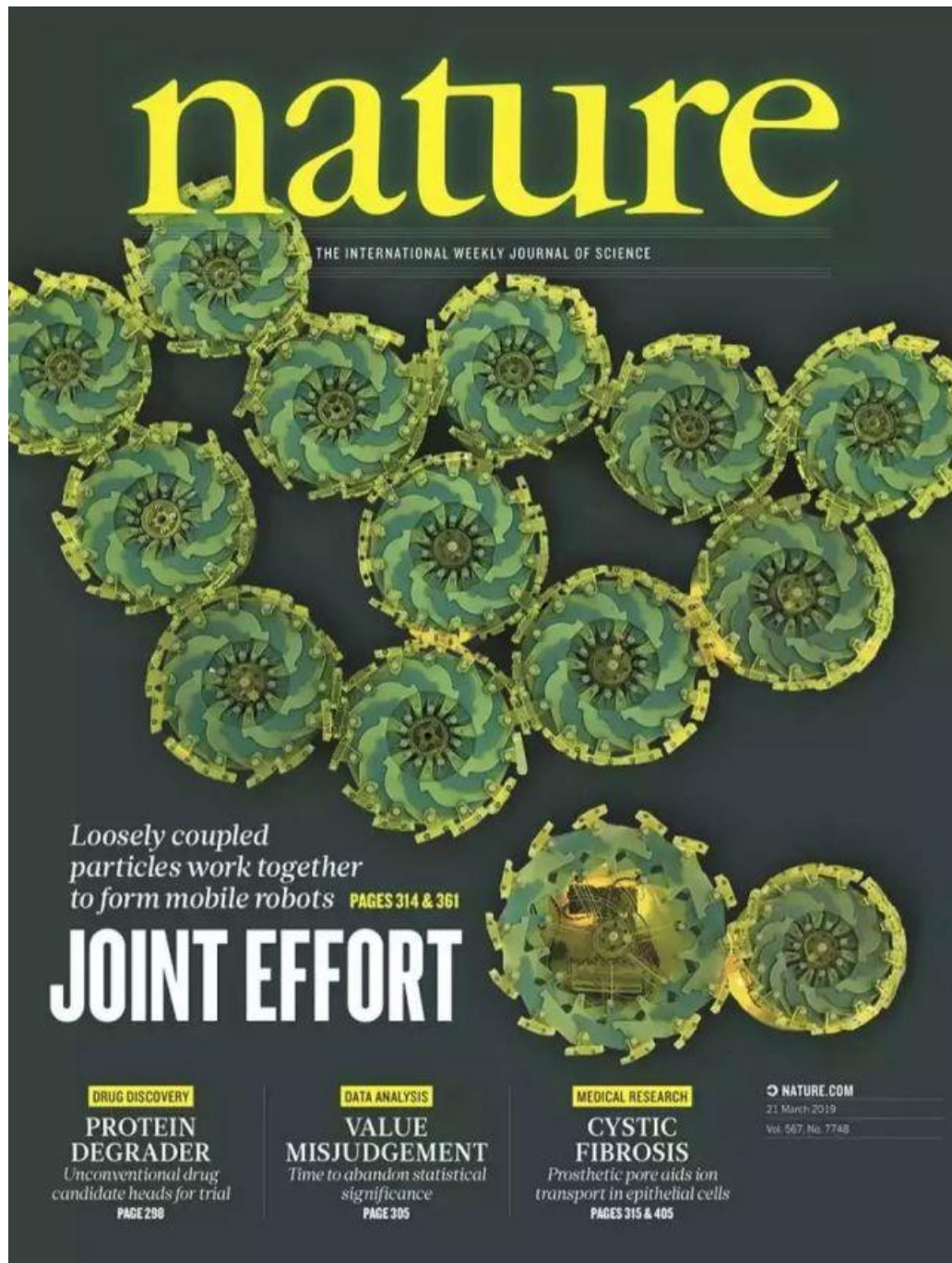
DOI: 10.1126/science.aau8302

==量子机器学习==算法 登上 Nature封面 **2019.03.13**

量子态空间作为特征空间进行数据分类-IBM领衔

Havlíček V, Córcoles A D, Temme K, et al. Supervised learning with quantum-enhanced feature spaces[J]. Nature, 2019, 567(7747): 209-212.
https://doi.org/10.1038/s41586-019-0980-2

仿生群体机器人 Nature封面
2019.03.20

"粒子机器人"可完成光导向运动、搬运物体和避障-哈佛大学

Li S, Batra R, Brown D, et al. Particle robotics based on statistical mechanics of loosely coupled components[J]. Nature, 2019, 567(7748): 361-365.
https://doi.org/10.1038/s41586-019-1022-9

最轻飞行机器人登上Nature封面 2019.06.26

"蜜蜂"机器人自重仅259毫克-哈佛大学

Jafferis N T, Helbling E F, Karpelson M, et al. Untethered flight of an insect-sized flapping-wing microscale aerial vehicle[J]. Nature, 2019, 570(7762): 491-495.
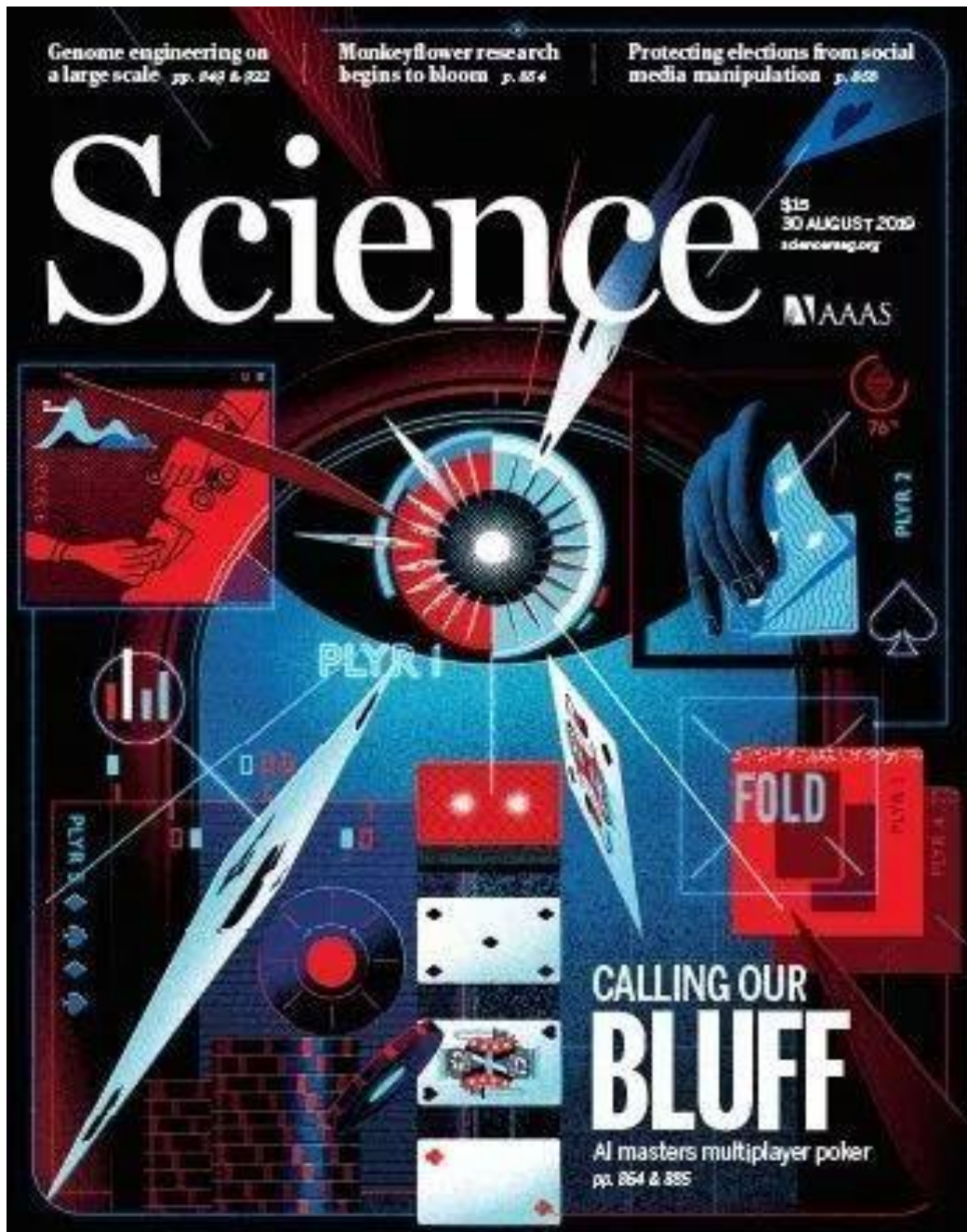
"天机"登上Nature封面
2019.07.31

清华大学团队发布全球首款异构融合类脑芯片

多人德扑再登Science
2019.08.30

Pluribus 成功战胜了五名专家级人类玩家-Facebook 与卡耐基梅隆大学

==高分辨率重建==89个神经元
Science封面　2019.11.29

德国马克斯·普朗克大脑研究所对==小鼠的大脑皮层==进行了成像和分析

Motta A, Berning M, Boergens K M, et al. Dense connectomic reconstruction in layer 4 of the somatosensory cortex[J]. Science, 2019, 366(6469).

Facing facts 人脸识别==偏见问题==登上Nature封面 (NEWS | FEATURE) 2020.11.18

https://www.nature.com/nature/volumes/587/issues/7834

The international journal of science / 7 January 2021

nature

ATOMIC INSIGHTS

Machine learning offers mechanistic view of transitions in disordered silicon

Fast-track research How the hunt for a COVID jab could change vaccine science

Structured movies Anti-tuberculosis drug imaged in action at its cellular target

Coronavirus Mobile-phone data help model infection dynamics for COVID-19

AI 再次攻陷<mark>材料领域</mark>——助力非晶结构材料研究 登上Nature封面 2021.01.06

无序材料的仿真模拟已迈出了质的步伐-ML算法实现10万高压非晶硅原子的模拟-英国牛津大学领衔

Deringer V L, Bernstein N, Csányi G, et al. Origins of structural and electronic transitions in disordered silicon[J]. Nature, 2021, 589(7840): 59-64. https://doi.org/10.1038/s41586-020-03072-z

Nature封面 **2021.03.03**

<mark>浙大</mark>软体机器人成功挑战马里亚纳海沟
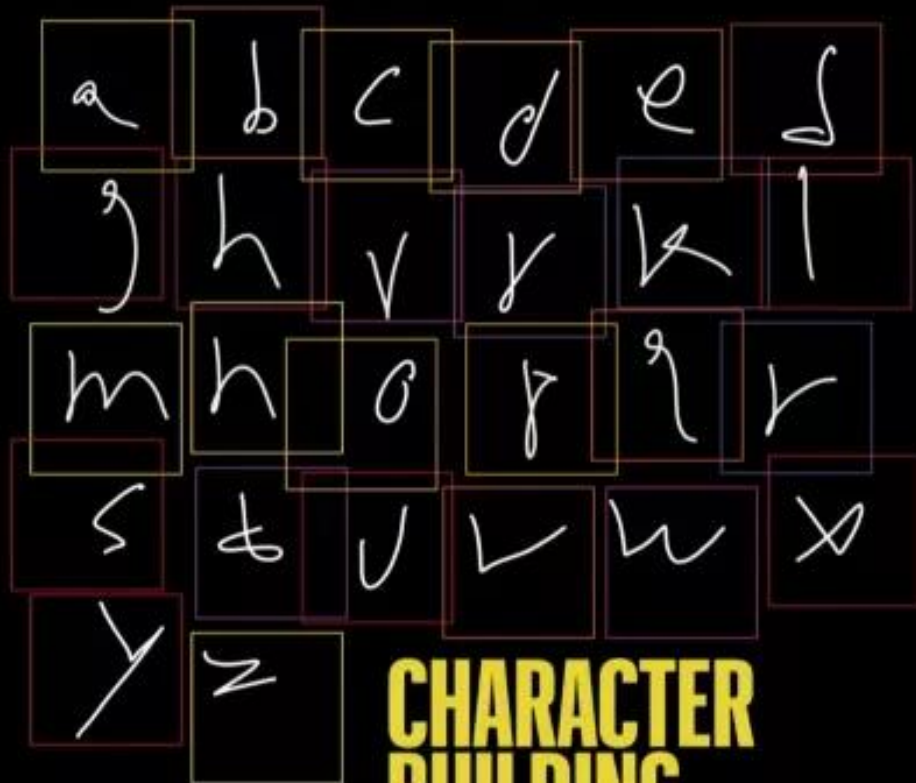
Cover Paper

最强AI辩手 Nature封面
2021.03.17

AI 系统Project Debater -IBM

Slonim N, Bilu Y, Alzate C, et al. An autonomous debating system[J]. Nature, 2021, 591(7850): 379-384.
https://doi.org/10.1038/s41586-021-03828-1

nature

CHARACTER BUILDING

Brain–computer interface translates thoughts of handwriting into typed text

Coronavirus
How COVID-19 put evidence-based medicine to the test

Natural resources
Protect, manage and restore ecosystems to cool the planet

Up in the air
A mechanism for the formation of formic acid in the atmosphere

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Cover Paper

「意念手写」登上Nature封面

2021.05.12

斯坦福团队「意念手写」脑机接口重磅发布

Willett F R, Avansino D T, Hochberg L R, et al. High-performance brain-to-text communication via handwriting[J]. Nature, 2021, 593(7858): 249-254.
https://doi.org/10.1038/s41586-021-03506-2

新算法**Swarm Learning**登上 Nature**封面** 2021.05.26

比联邦学习更安全，SL可保障 <mark>医疗数据共享</mark>-德国波恩大学

Warnat-Herresthal S, Schultze H, Shastry K L, et al. <mark>Swarm Learning</mark> for decentralized and confidential clinical machine learning[J]. Nature, 2021, 594(7862): 265-270.
https://doi.org/10.1038/s41586-021-03583-3

Thank you !