

<https://www.nature.com/>
<https://science.sciencemag.org/>

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

(2015.01~2021.07, incomplete survey)

Collected by Xian Zhang, 2021/8/18
Naval University of Engineering, Wuhan, China.
tomtomzx@foxmail.com

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



Cover Paper

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>



Cover Paper

机器人适应“残障”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>

What it takes to end an
AIDS epidemic p. 226

Polar bears suffer through
lean summers p. 295

Sperm produced in ovary
of mutant fish p. 328

Science

\$10
17 JULY 2015
sciencemag.org

AAAS



SPECIAL ISSUE

ARTIFICIAL INTELLIGENCE

Cover Paper

AI Special Issue登上 Science封面 2015.07.17

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



Cover Paper

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

Lake B M, Salakhutdinov R, Tenenbaum J B. Human-level concept learning through probabilistic program induction[J]. Science, 2015, 350(6266): 1332-1338.

[DOI: 10.1126/science.aab3050](https://doi.org/10.1126/science.aab3050)



Cover Paper

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](https://doi.org/10.1038/nature16961)

nature

THE INTERNATIONAL WEEKLY JOURNAL OF SCIENCE



Where words make sense

A semantic atlas of the cerebral cortex

PAGE 453

NATURAL HAZARDS

MOVING MOUNTAINS

Listening for landslides after Nepal's killer quake

PAGE 428

INDUSTRIAL CHEMISTRY

TRIAL SEPARATIONS

Seven processes that could change the world

PAGE 435

PALAEONTOLOGY

SOME KIND OF VERTEBRATE

Demystification of the Illinois Tully monster

PAGES 447, 496 & 500

NATURE.COM/NATURE

29 April 2016 \$10

VOL 532, NO. 7600



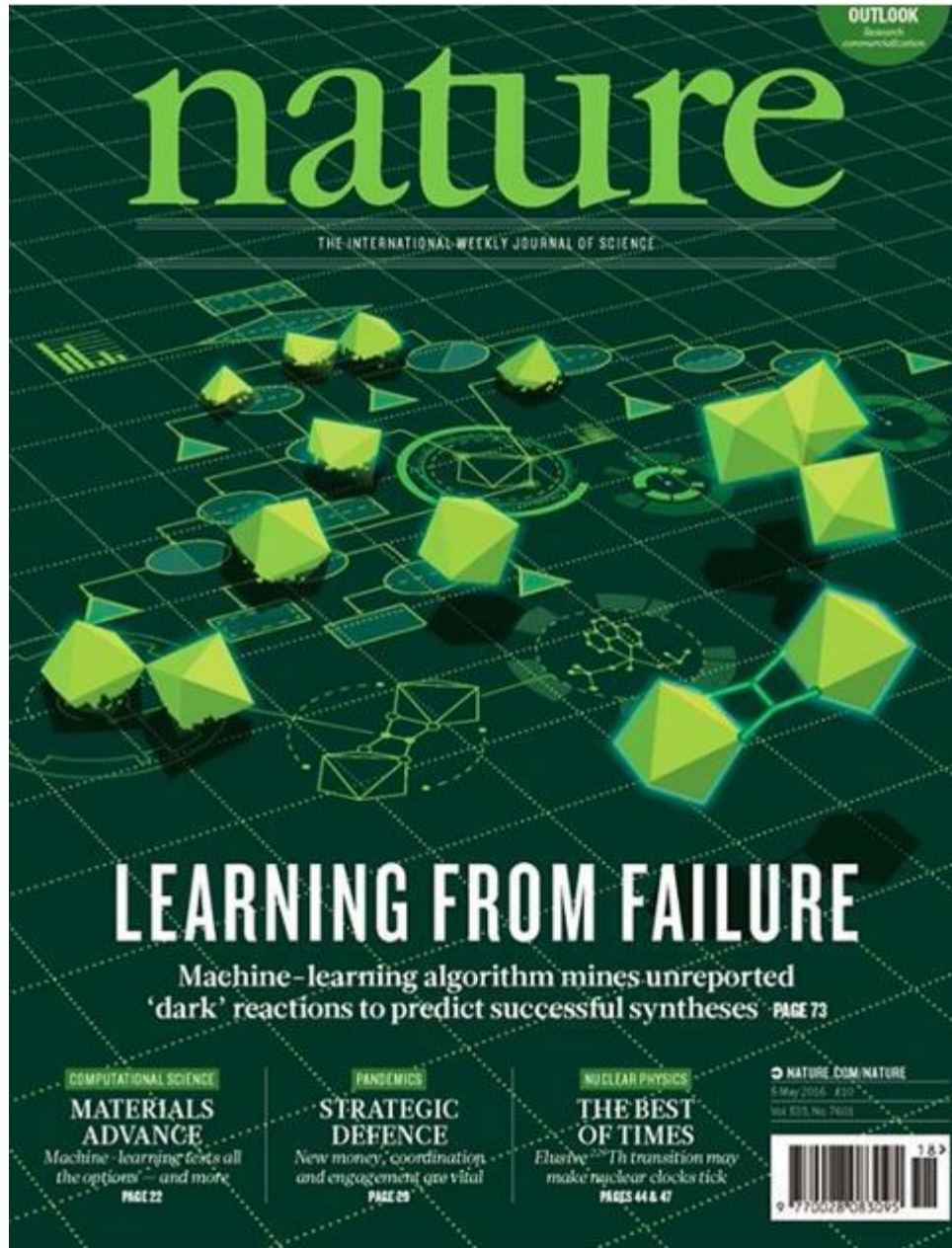
Cover Paper

大脑语义地图 登上Nature封面 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>



Cover Paper

机器学习将掀起材料革命?

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 materials discovery using failed experiments[J]. Nature, 2016, 533(7601): 73-76.

<https://doi.org/10.1038/nature17439>



Cover Paper

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](https://doi.org/10.1038/nature21056)



Cover Paper

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

AAAS



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](https://doi.org/10.1126/science.aam6960)



Cover Paper

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>



Cover Paper

AI Special Issue登上 Science封面 2017.07.07

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



Cover Paper

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.

<https://doi.org/10.1038/s41586-018-0289-6>



Cover Paper

**“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**

Karásek M, Muijres F T, De Wagter C, et al. A tailless aerial robotic flapper reveals that flies use torque coupling in rapid banked turns[J]. Science, 2018, 361(6407): 1089-1094.

[DOI: 10.1126/science.aat0350](https://doi.org/10.1126/science.aat0350)



Cover Paper

AlphaZero登上Science封面

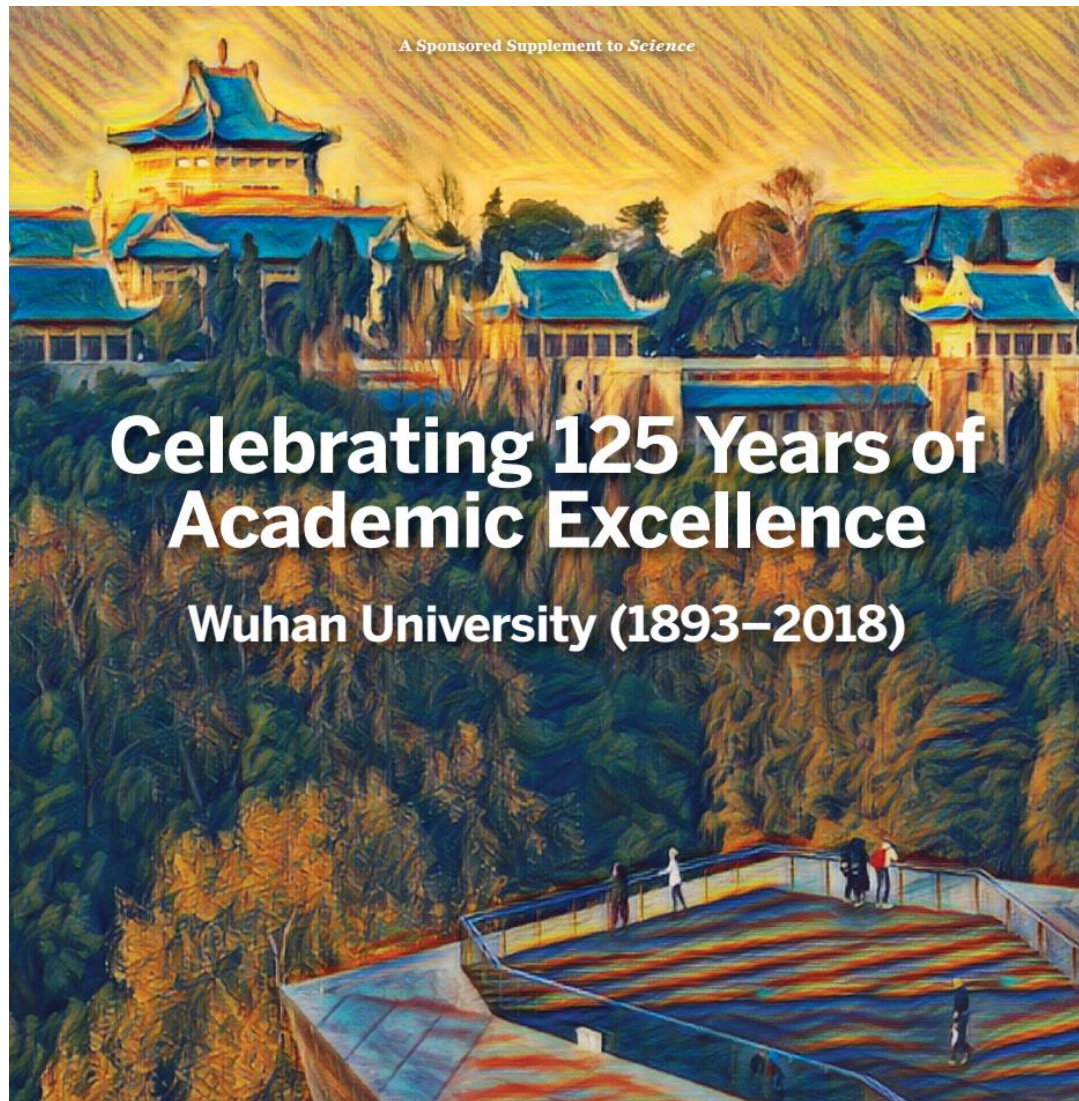
2018.12.07

最强棋类AI通杀三大棋- DeepMind

Silver D, Hubert T, Schrittwieser J, et al. A general reinforcement learning algorithm that masters chess, shogi, and Go through self-play[J]. Science, 2018, 362(6419): 1140-1144.

[DOI: 10.1126/science.aar6404](https://doi.org/10.1126/science.aar6404)

Cover Paper



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.science-mag.org/collections/celebrating-125-years-academic-excellence-wuhan-university-1893-2018>

Sponsored by



Produced by the
Science/AAAS Custom
Publishing Office





Cover Paper

**果蝇大脑纳米级成像 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](https://doi.org/10.1126/science.aau8302)



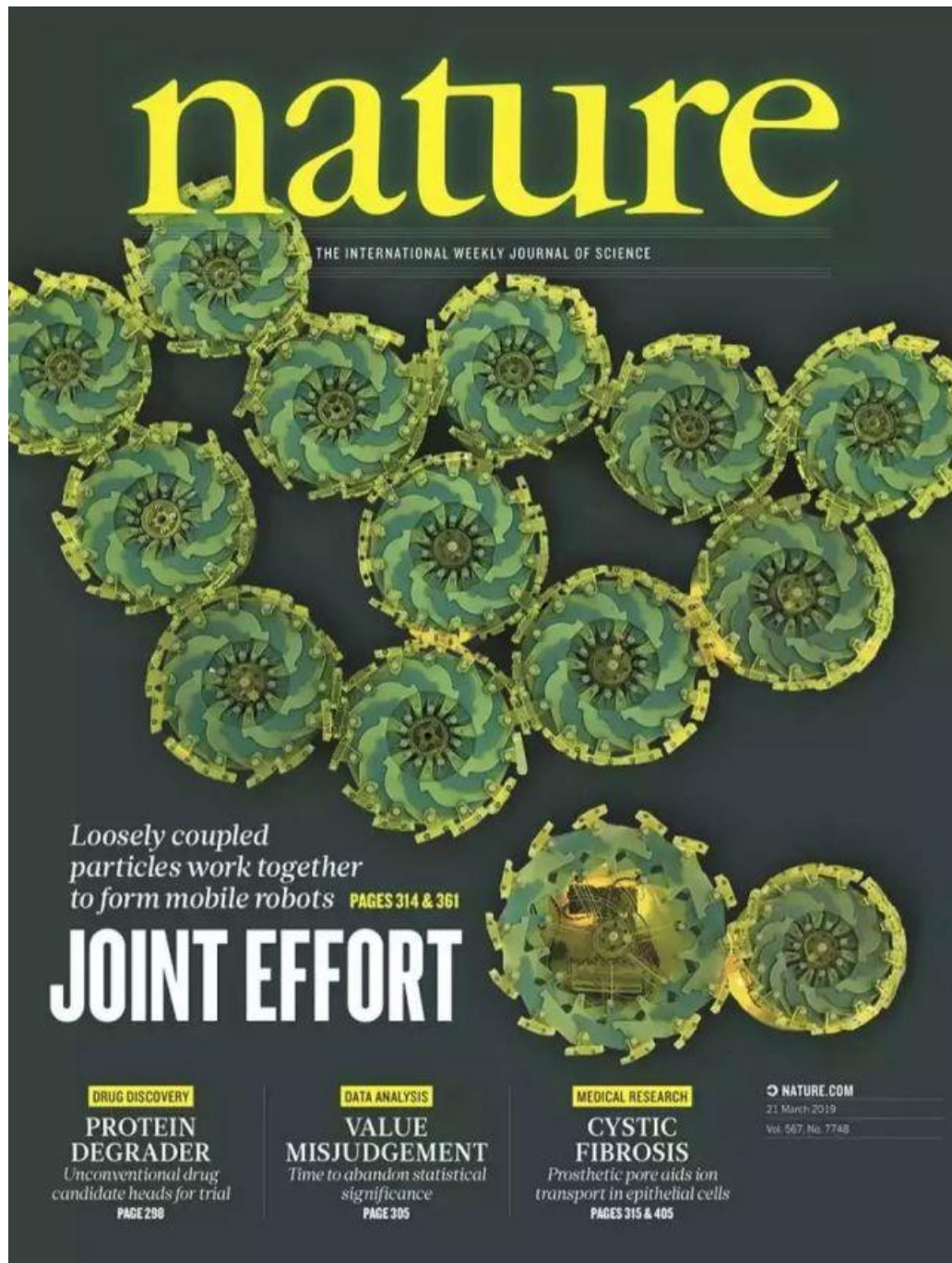
Cover Paper

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>



Cover Paper

仿生群体机器人 Nature封面

2019.03.20

中国籍博士一作-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>



Cover Paper

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.

<https://doi.org/10.1038/s41586-019-1322-0>



Cover Paper

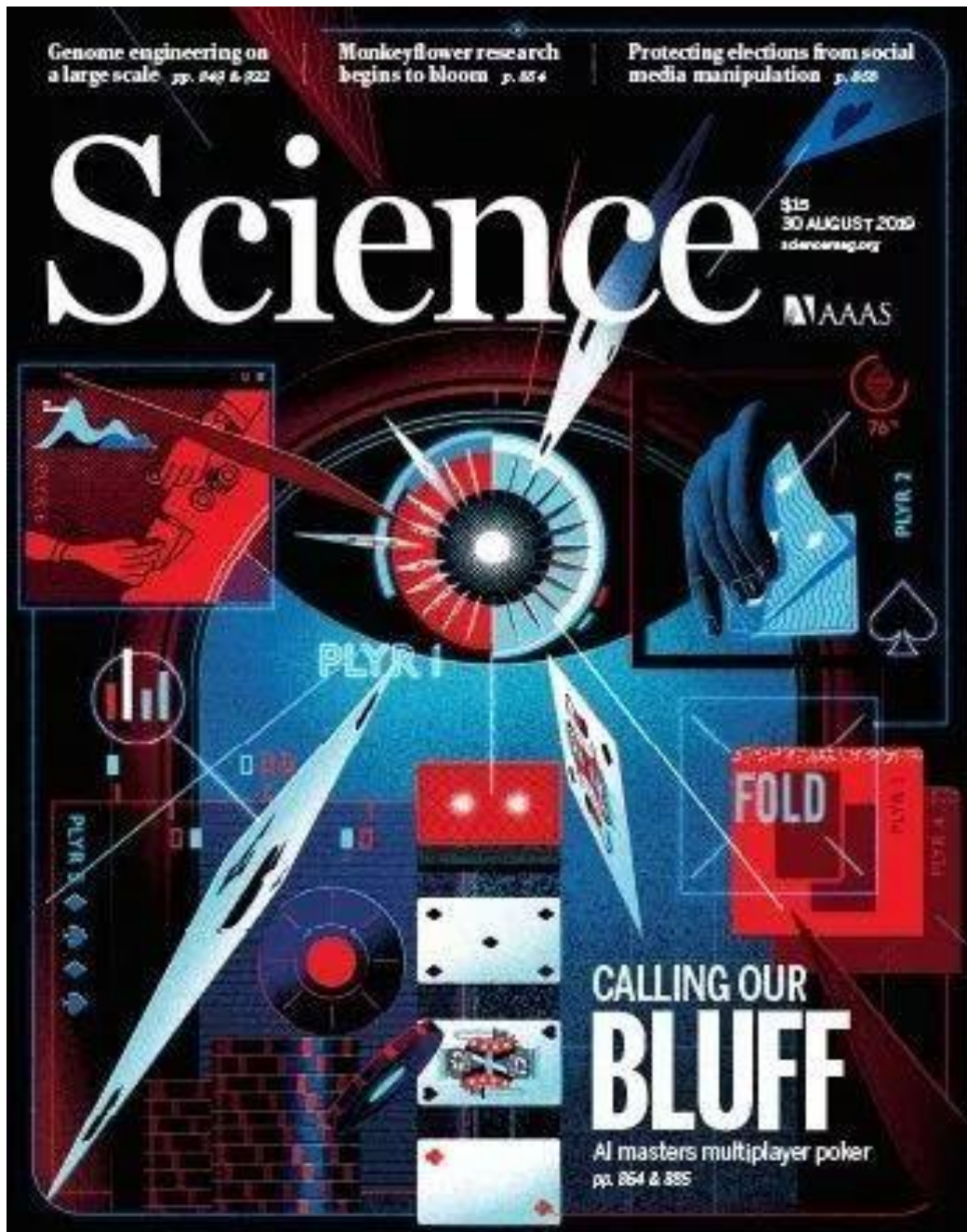
“天机”登上Nature封面

2019.07.31

清华施路平团队发布全球首款 异构融合类脑芯片

Pei J, Deng L, Song S, et al. Towards artificial general intelligence with hybrid **Tianjic chip** architecture[J]. Nature, 2019, 572(7767): 106-111.

<https://doi.org/10.1038/s41586-019-1424-8>



Cover Paper

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

Brown N, Sandholm T. Superhuman AI for multiplayer poker[J]. Science, 2019, 365(6456): 885-890.

[DOI: 10.1126/science.aay2400](https://doi.org/10.1126/science.aay2400)



Cover Paper

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).

[DOI: 10.1126/science.aay3134](https://doi.org/10.1126/science.aay3134)



Cover Paper

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>



Cover Paper

AI 再次攻陷材料领域——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>



Cover Paper

Nature封面 2021.03.03

浙大软体机器人成功挑战**马里亚纳海沟**

Li G, Chen X, Zhou F, et al. Self-powered **soft robot** in the Mariana Trench[J]. Nature, 2021, 591(7848): 66-71.

<https://doi.org/10.1038/s41586-021-03828-1>

nature

THE SILICON SOAPBOX

AI system goes head-to-head with humans in competitive debates



Zeroing in

Replace vague claims with rigorous plans to cut emissions

Almost blue

Modelling the path towards a sustainable blue economy

Defensive move

Exercise helps prompt production of immune cells in bone marrow



Cover Paper

最强AI辩手 Nature封面

2021.03.17

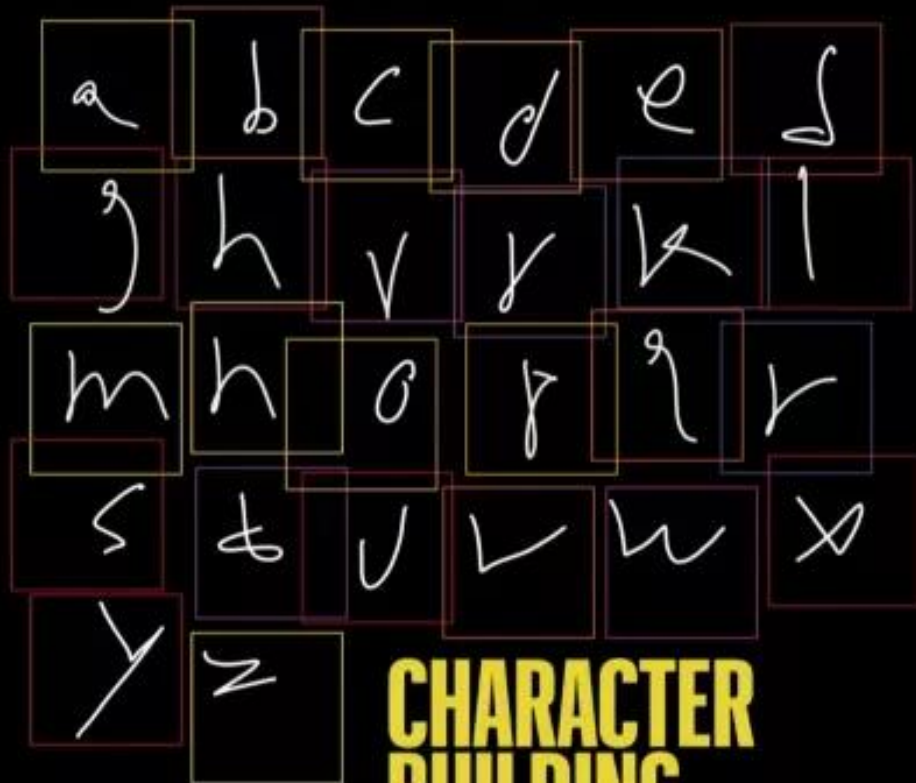
AI 系统Project Debater -IBM

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>

The international journal of science / 13 May 2021

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

Vol. 593, No. 7858
May 13, 2021

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>



Cover Paper

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
医疗数据共享-德国波恩大学

Warnat-Herresthal S, Schultze H, Shastry K L, et al. **Swarm Learning** 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!

