

中美在人工智能领域的竞争

China - United States

competition in the field of
artificial intelligence

尤瑞德：美国空军上尉

Captain Uber of the United States Air Force

The views expressed are those of the author and do not necessarily reflect the official policy or position of the Air Force, the Department of Defense or the U.S. Government.



人工智能简介

Introduction to Artificial Intelligence

- 人工智能与机器学习的区别
- The difference between artificial intelligence and machine learning
- 强人工智能 可以自己探索
- Strong artificial intelligence can explore by itself
- 弱人工智能 有一定的范围和限制
- Weak artificial intelligence has certain scope and limitations

Science and Technology-Related Targets

Target	11th FYP (2010 Target)	11th FYP Category	2010 (Actual)	12th FYP (2015 Target)	12th FYP Category	2015 (Actual)	13th FYP (2020 Target) [Average Annual Rate]	13th FYP Category
R&D as % of GDP	2% (E)	Economic Structure	1.75%	2.2% (E)	Scientific Education	2.1%	2.5% [0.4%] (E)	<i>Innovation- Driven</i>
Patents per 10,000 People	—	—	1.7	3.3 (E)	Scientific Education	6.3	12 [5.7%] (E)	<i>Innovation- Driven</i>
Contribution of Science and Technological Advances to Economic Growth+	—	—	—	—	—	55.3% (E)	60% [4.7%] (E)	<i>Innovation- Driven</i>

[https://www.uscc.gov/sites/default/files/Research/The%2013th%20Five-Year%20Plan Final 2.14.17 Updated%20%28002%29.pdf](https://www.uscc.gov/sites/default/files/Research/The%2013th%20Five-Year%20Plan%20Final%202.14.17%20Updated%20%28002%29.pdf)

人工智能在国防领域

Artificial intelligence in national defense

- 无人驾驶（无人化军用平台） Unmanned driving (unmanned military platform)
 - 比如：美军忠诚僚机：“Loyal wingman”
For example: US military's "Loyal wingman"
 - 信息处理（智能化感知与信息处理）
 - Information processing (intelligent perception and information processing)
 - 自卫系统，战斗机器人（仿生机器人，“大狗”机器人）
 - Self-defense system, combat robot (humanoid robot, "BigDog" robot)
 - 智能化指挥控制辅助决策
 - Intelligent Command and Control Decision Support
 - 扩展人的体能技能和智能
 - Augment human physical skills and intelligence
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- http://www.mod.gov.cn/jmsd/2017-01/23/content_4770692.htm

人才：强国竞争未来的战场

Talent: the battlefield where powerful nations compete for the future

- 变成AI的领先国家，一定能够吸引优秀研究者和企业家。

To become a leader in AI, countries must attract outstanding researchers and entrepreneurs.

现在美国还享受优势：

Now the United States still enjoys the advantage:

- 德勤在报告中说，在全球 10 所最顶尖的机器学习人才培养大学里，有 5 所位于中国，但是那里的毕业生很多并没有留下。其中四所是清华大学、北京大学、上海交通大学、中国科技大学，最近几年它们培育了 12521 名毕业生，但是只有 31% 的学生留在中国，62% 前往美国。
- Deloitte said in the report that of the world's 10 top universities for machine learning talent cultivation, 5 are located in China, but many graduates do not remain in China. In recent years, four schools (Tsinghua University, Peking University, Shanghai Jiaotong University, and University of Science and Technology of China) have cultivated 12,521 graduates, but only 31% of those students stayed in China and 62% went to the United States.
- <https://www.aiaor.com/article-377-1.html>

Most-cited scholars

Author Name	# of Papers Cited by AAAI	# of AAAI-Citations Received
Yoshua Bengio	156	1,240
Andrew Y. Ng	123	1,078
Tuomas Sandholm	214	970
Milind Tambe	196	913
Michael I. Jordan	153	879
Geoffrey E. Hinton	126	860
Judea Pearl	141	840
Bart Selman	118	780
Henry A. Kautz	114	753
Richard S. Sutton	84	726
Christopher D. Manning	108	719
Daniel S. Weld	131	694
Craig Boutilier	133	674
Pedro M. Domingos	95	670
Vincent Conitzer	129	632
Daphne Koller	138	630
Ilya Sutskever	40	610
Michael L. Littman	112	603
Manuela M. Veloso	214	582
Andrew G. Barto	55	581

Top institutions

# of AAAI-Papers	Institution Name	# of Citations From AAAI-Papers
607	Carnegie Mellon University	13,893
261	Stanford University	8,233
348	Massachusetts Institute of Technology	7,521
257	University of Texas at Austin	7,046
205	University of Washington	6,600
323	Microsoft	4,822
320	University of Southern California	3,910
200	University of Alberta	3,281
98	University of British Columbia	2,927
135	University of California, Los Angeles	2,803
152	University of Toronto	2,698
179	University of Maryland, College Park	2,647
112	Hong Kong University of Science and Technology	2,630
145	National University of Singapore	2,597
27	AT&T	2,583
164	University of Massachusetts Amherst	2,536
201	Georgia Institute of Technology	2,521
105	Cornell University	2,438
25	University of Utah	2,431
79	Brown University	2,401

来源：Microsoft.com

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