

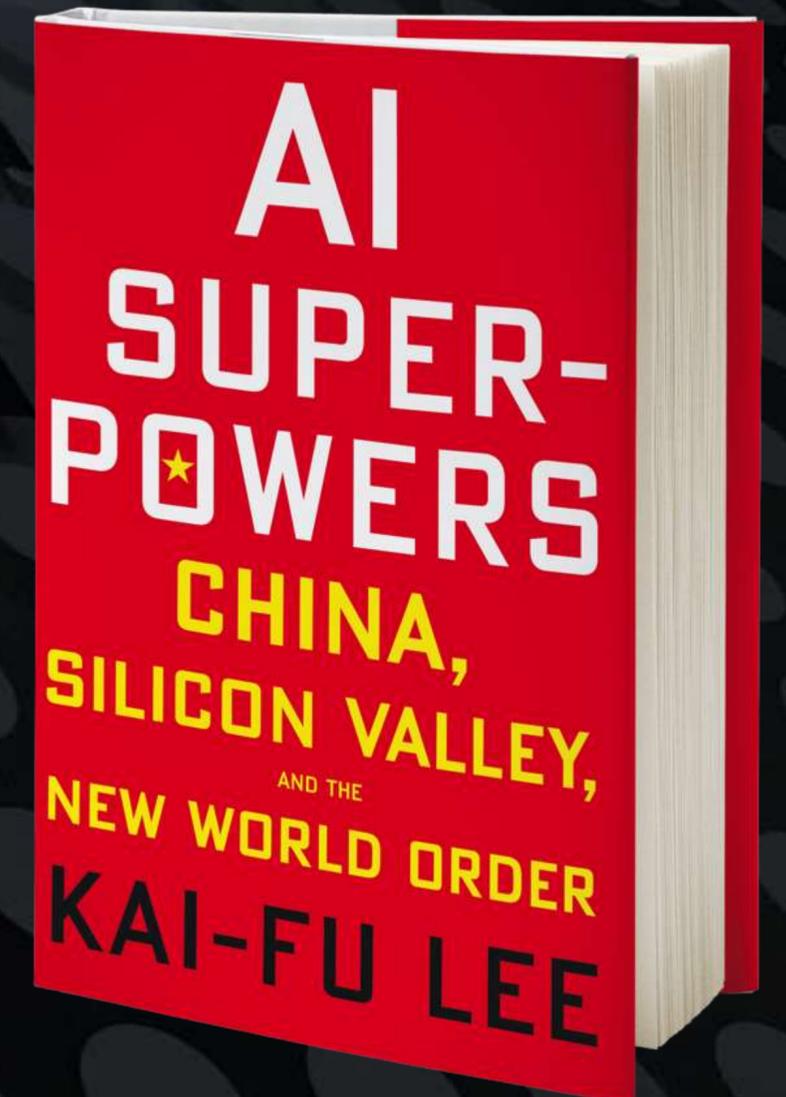
The Era of AI:

The Rise of China & The Future of Work

Dr. Kai-Fu Lee

Chairman & CEO, Sinovation Ventures

www.aisuperowers.com



Deep Learning



“Say something about AI”



It's a great thing to build a better world with Artificial Intelligence

人工智能正在改变世界

Four waves of Artificial Intelligence Applications

Wave 4: Autonomous AI

2015



UISEE

Wave 3: Perception AI (digitized physical world)

2011



Wave 2: Business AI

2004



Wave 1: Internet AI

1998



Five Premises of AI

Massive data

1

Accurate,
objective tagging

2

Single
domain

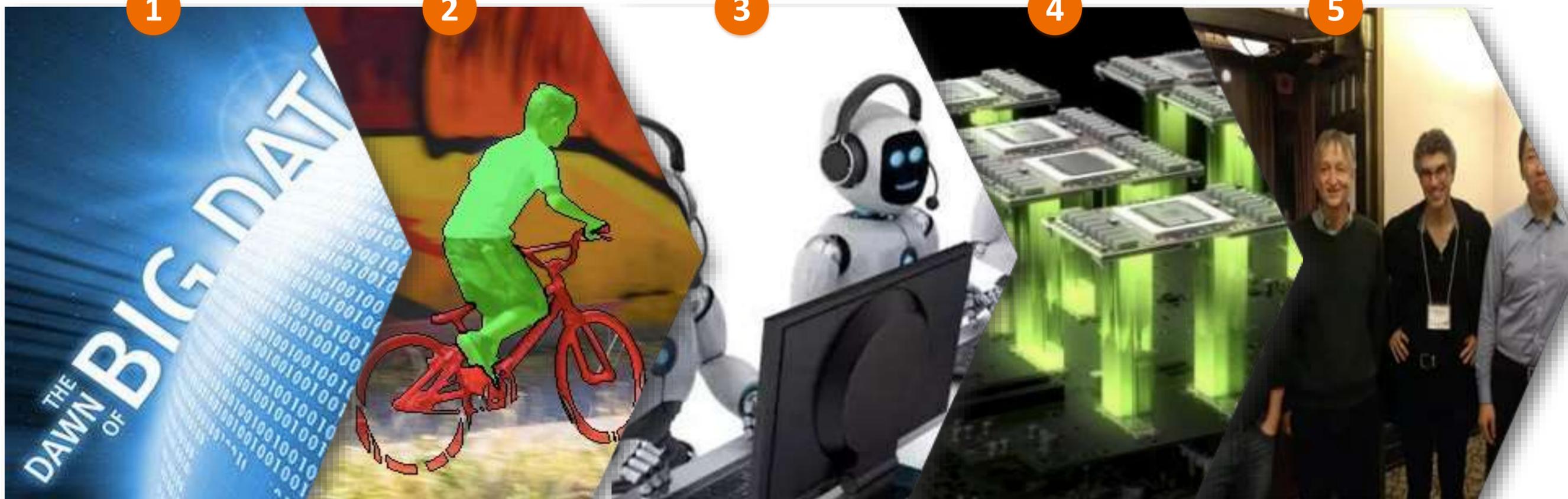
3

Computation
power

4

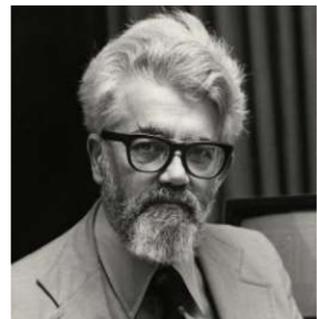
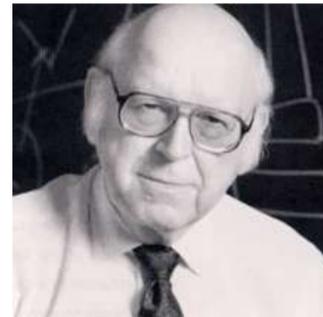
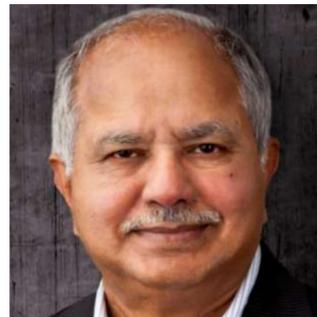
AI Experts

5



US Leads in AI Science & Top Scientists

Turing Award Recipients in AI

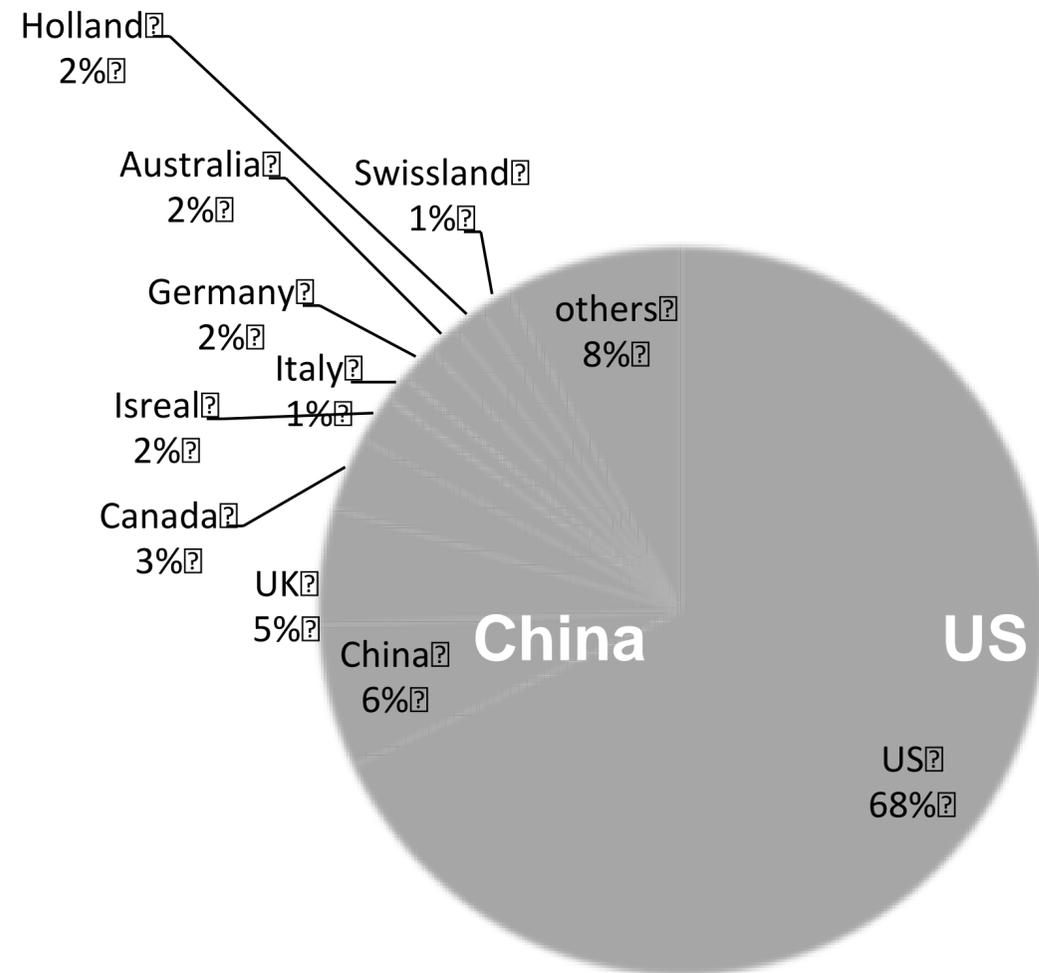


Deep Learning Inventors



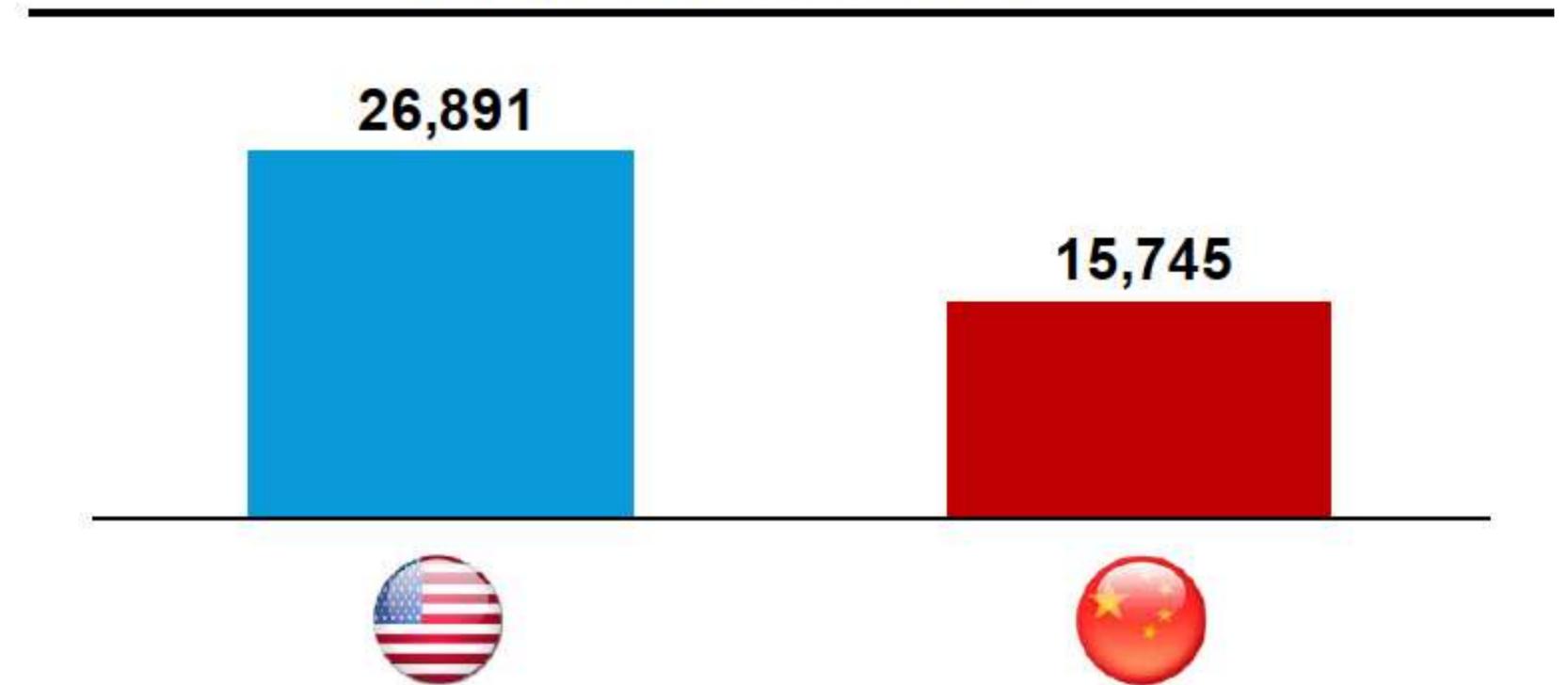
US leads China by far in top-1000 researchers & patents

World's Leading 1000 AI Experts by Country (H-Index \geq 60)



Source: AMiner 2017 AI and Autonomous Driving Research

Number of AI / ML Patents



So how can China have a chance?

1

Only few AI breakthroughs + they're easy to apply

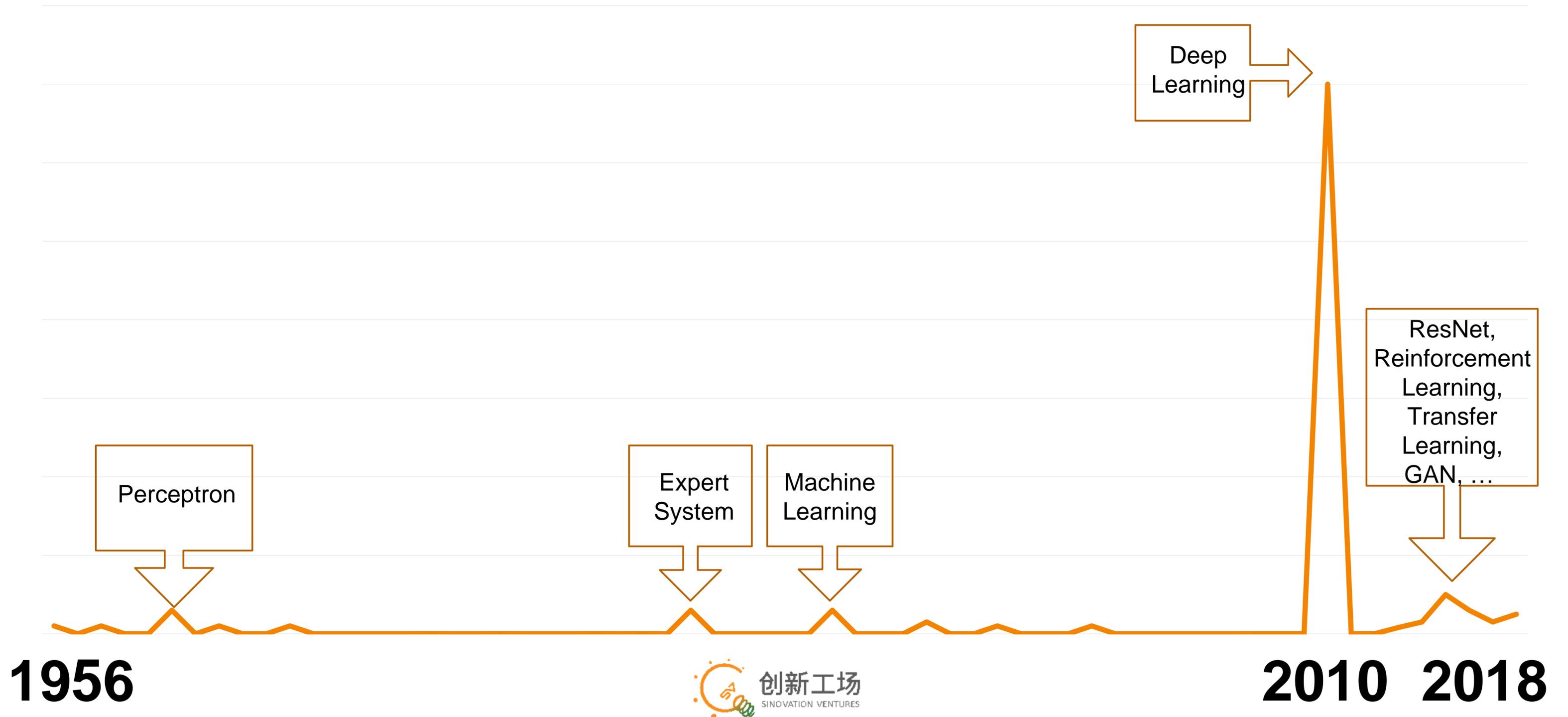
2

AI entering era of implementation

3

AI platforms + openness further lowers entry barrier

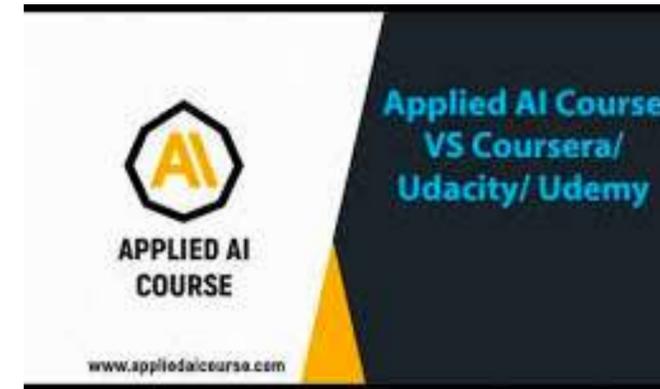
Observation 1: Only few AI breakthroughs: Deep learning is the *biggest* breakthrough that is now easy-to-apply



Observation 2: AI is entering the Era of Implementation



Observation 3: AI platforms + openness lower AI entry barrier



For most applications, super AI experts not needed

Massive data

1

Accurate,
objective tagging

2

Single
domain

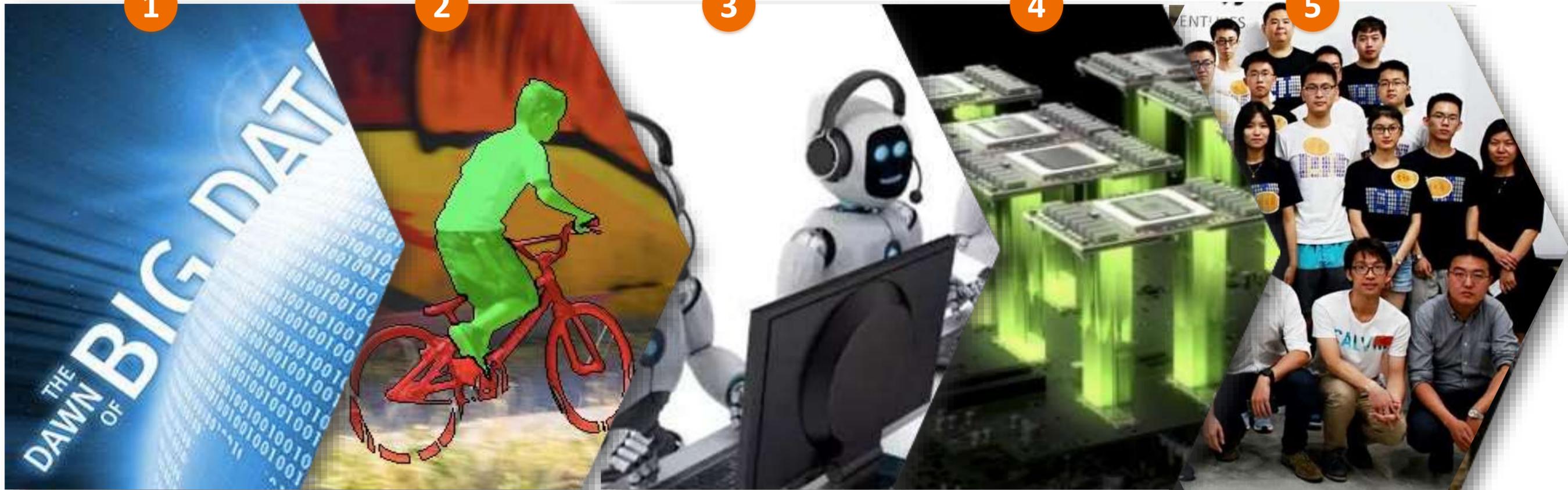
3

Computation
power

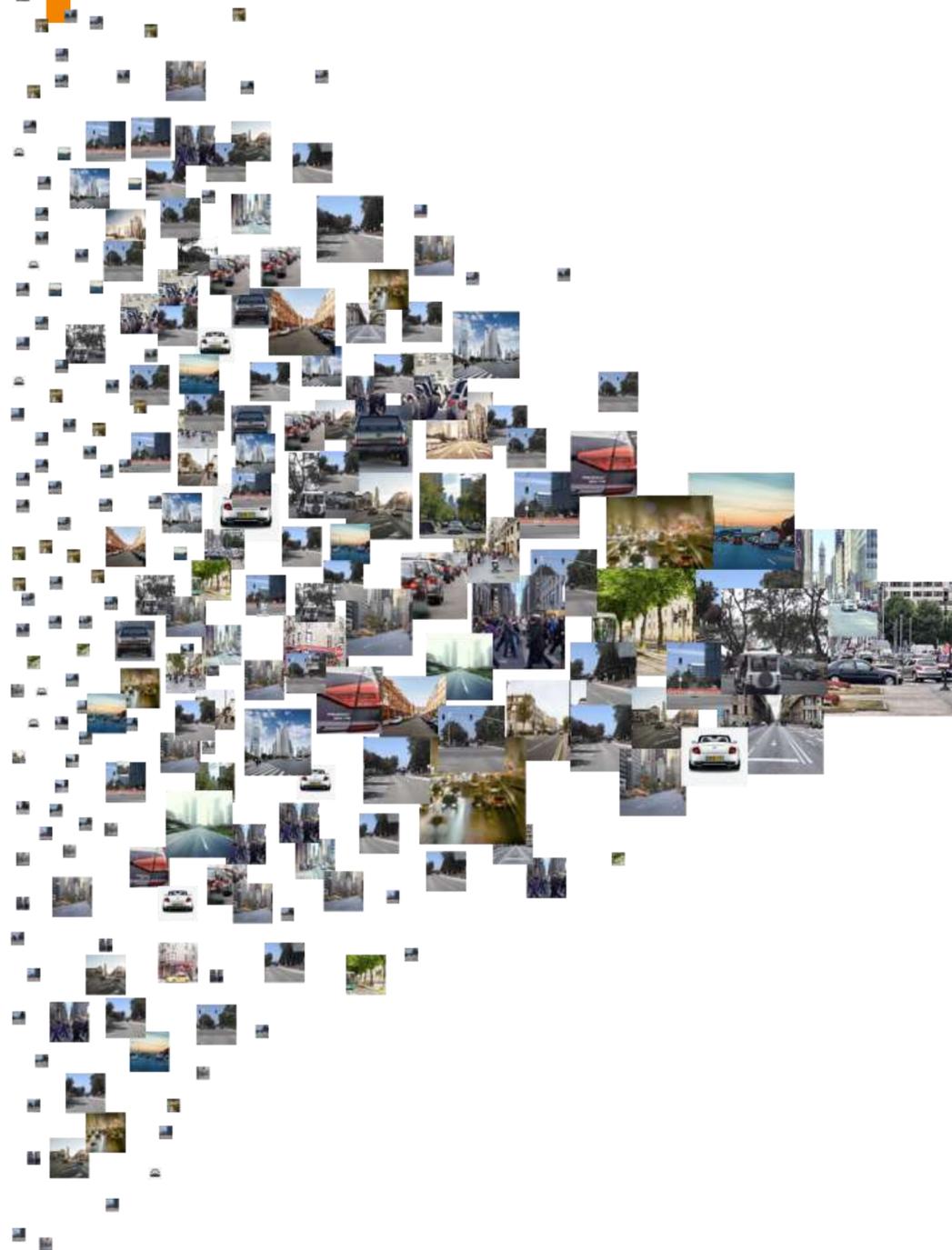
4

Young
AI Engineers

5



Deep Learning: Autonomous Driving (Student Project)



How China leapfrogs in AI implementation

1

Only few AI breakthroughs + they're well understood

2

AI entering era of implementation

3

AI platforms + openness further lowers entry barrier

1

Massive Young Chinese AI engineers

2

China has become innovative

3

Chinese founders are fast & tenacious

4

China has more AI funding & unicorns

5

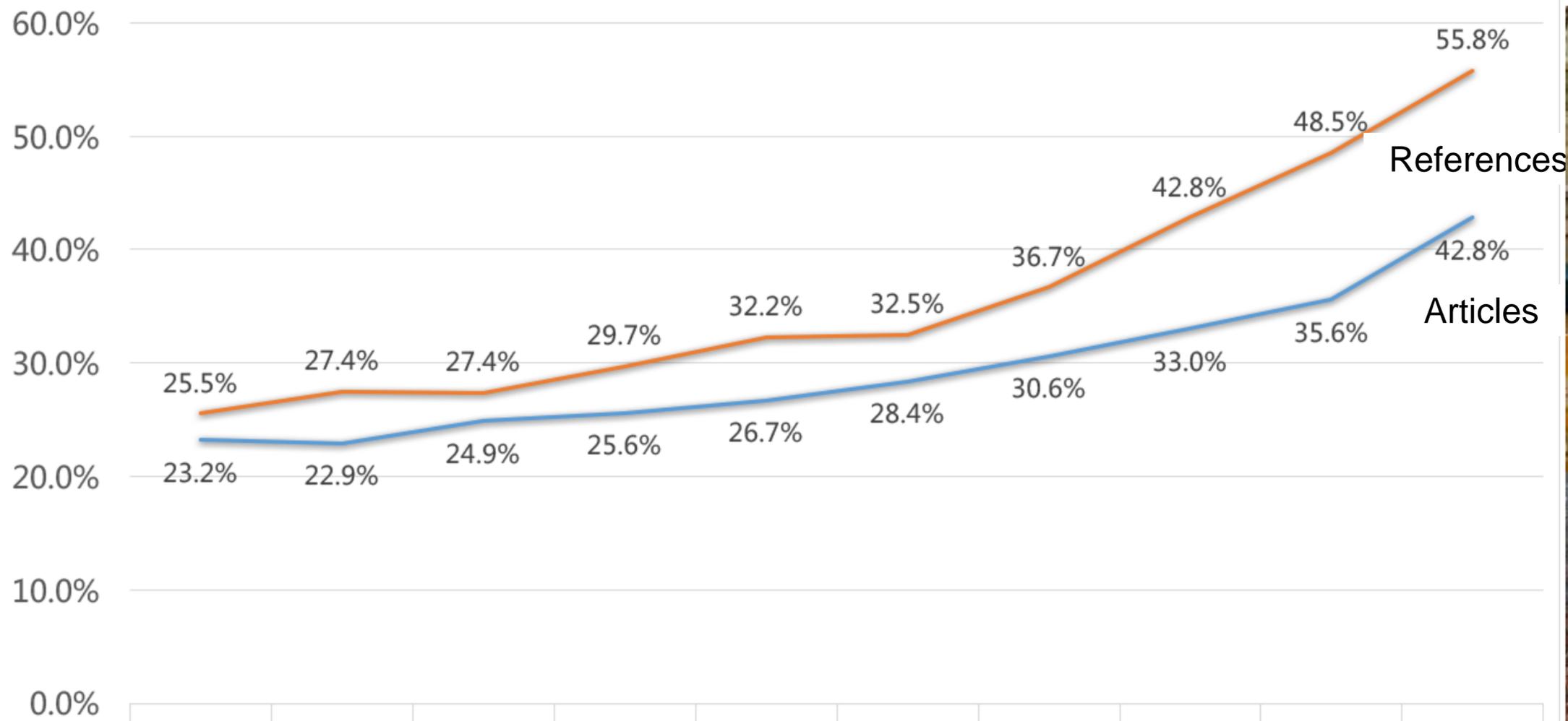
China has more data

6

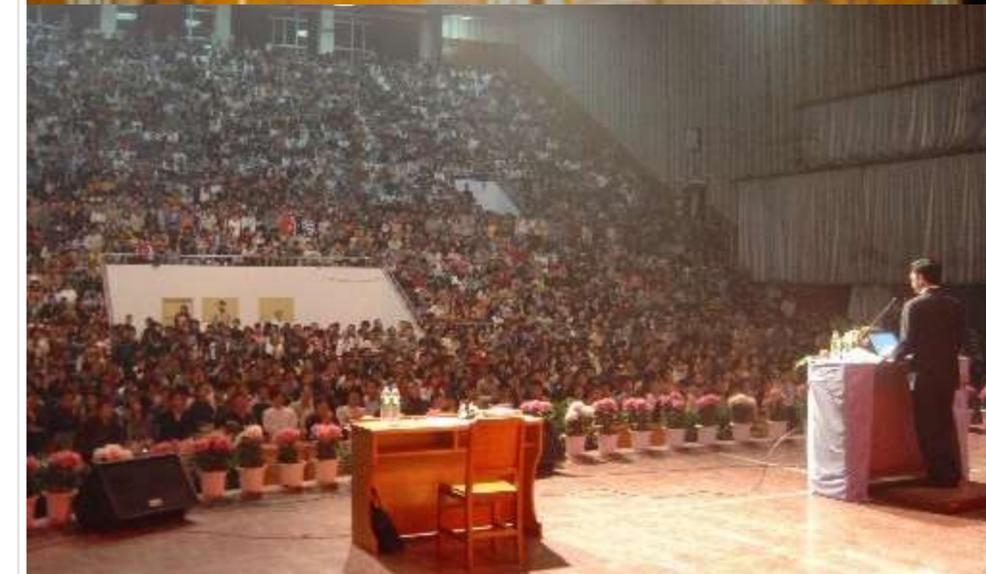
Chinese techno-utilitarian policies

Reason 1: Massive number of young Chinese AI engineers

Chinese contributions to AI journals and conferences



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
— 文章总数%	23.2%	22.9%	24.9%	25.6%	26.7%	28.4%	30.6%	33.0%	35.6%	42.8%
— 引用总数%	25.5%	27.4%	27.4%	29.7%	32.2%	32.5%	36.7%	42.8%	48.5%	55.8%



Reason 2: Chinese product innovation has caught up with US

Copied from U.S.

Baidu 百度

网易 NETEASE

sina 新浪

搜狐 SOHU.com

Inspired by U.S., then leapfrogged



知乎



meitu

淘宝网

支付宝 ALIPAY

Chinese innovations



mobike



Entering the era of: Copy-from-China



SINOVAION VENTURES

Reason 3: Tough market begets tough entrepreneurs

Gladiator-like
Entrepreneurs moving at
lightening speed



Strong fund raising capability
+ impregnable bus. model



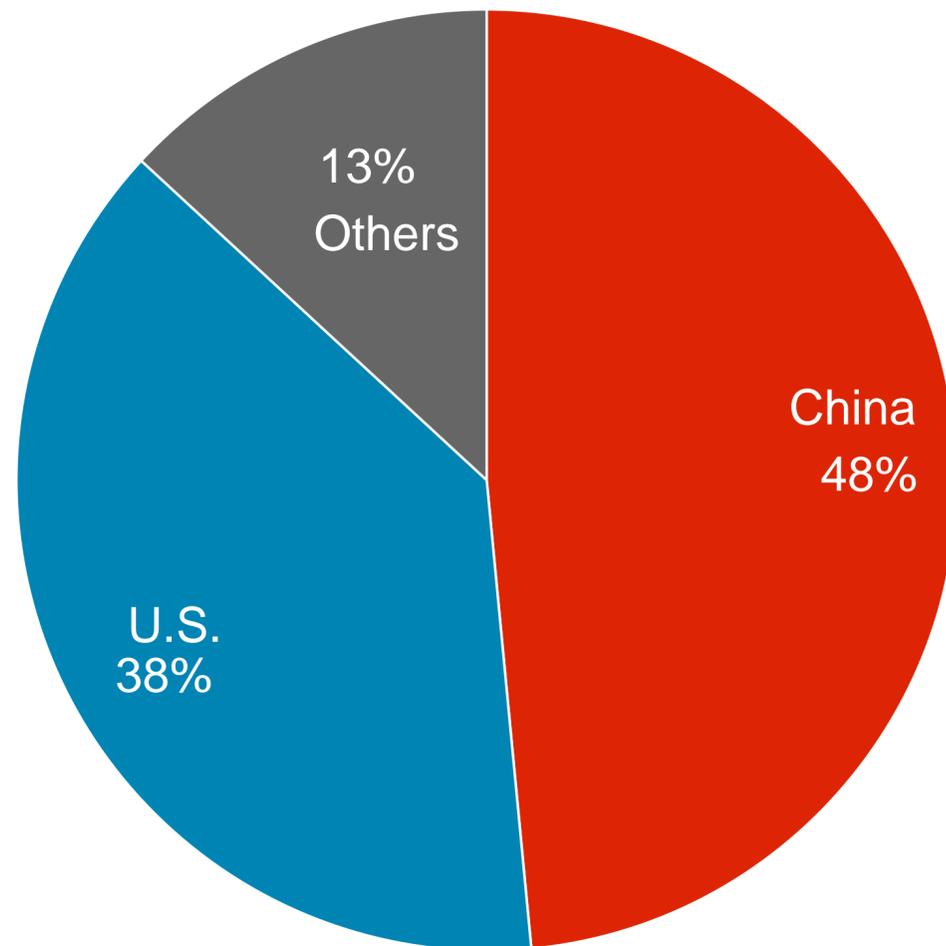
Work ethic driven by
hunger for success



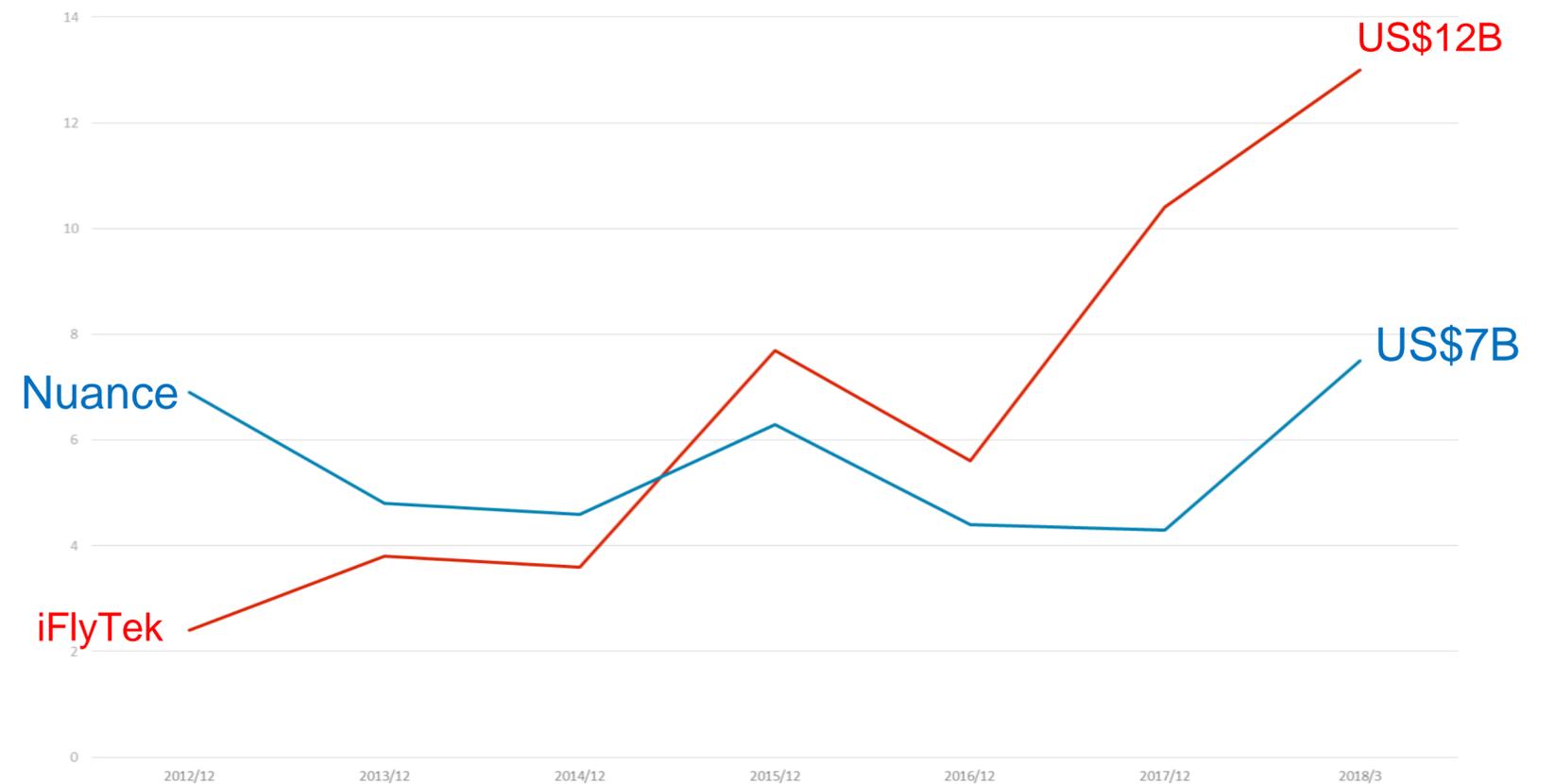
Fast iterations towards business goals, while adding data = the key to AI implementation

Reason 4: China's AI capital leads the world

2017 world-wide AI investments



China-US Top Voice Recognition Company Valuation (in USD billions)



Source: CB Insights 2017 Global Artificial Intelligence Investment

Sinovation Ventures' s AI unicorns, total valuation \$21B



Valued at **\$15Bn**

Multiple~ **13x**

World's most profitable
mining machine + AI
chip company

Valued at **\$1Bn**

Multiple~ **12x**

China's first AI
unicorn in Fin-Tech

Valued at **\$2.2Bn**

Multiple~ **72x**

World's first AI unicorn
in computer vision

Valued at **\$1Bn**

Multiple~ **22x**

China's first AI unicorn
in autonomous driving

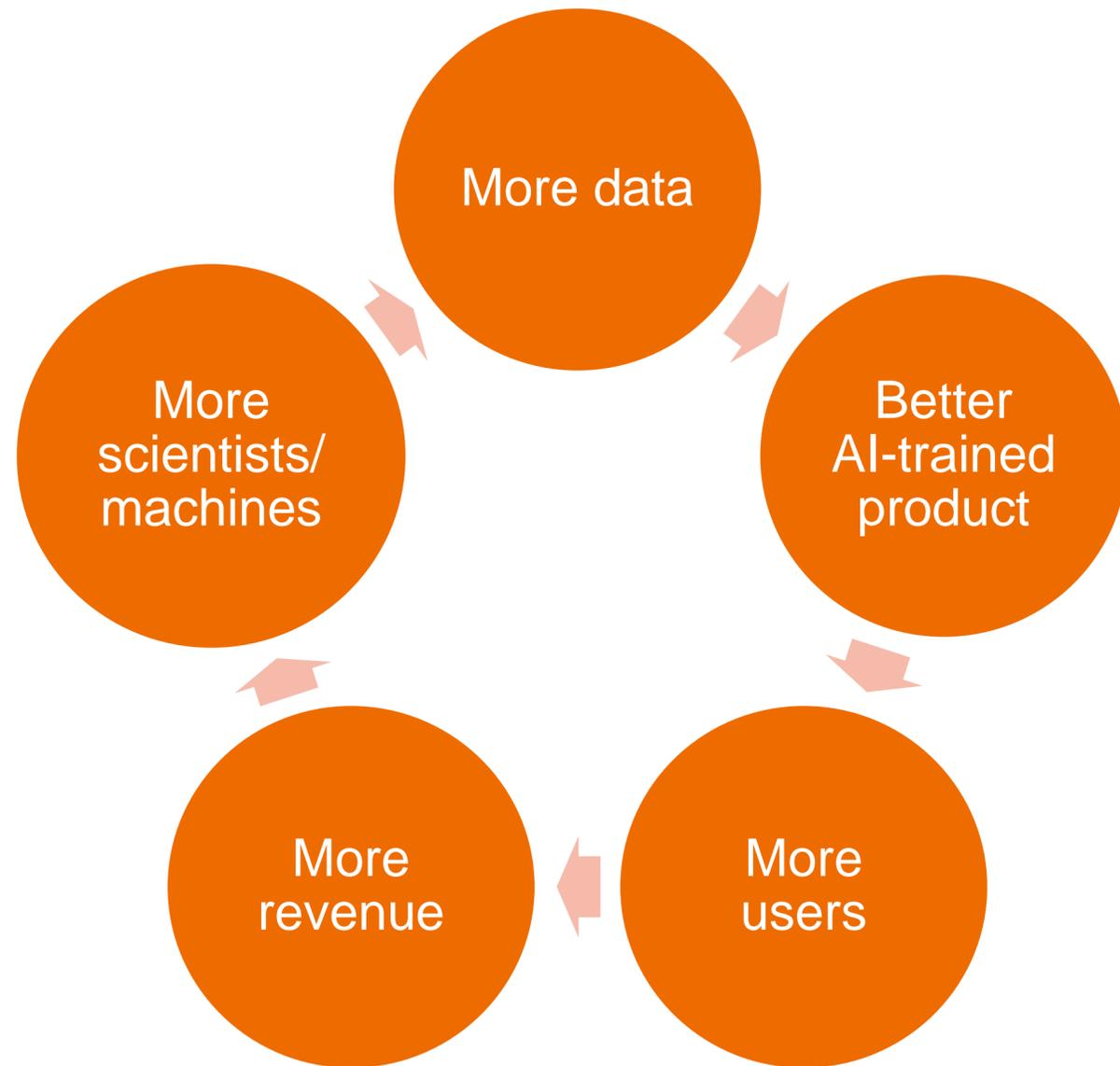
Valued at **\$1.5Bn**

Multiple~ **8x**

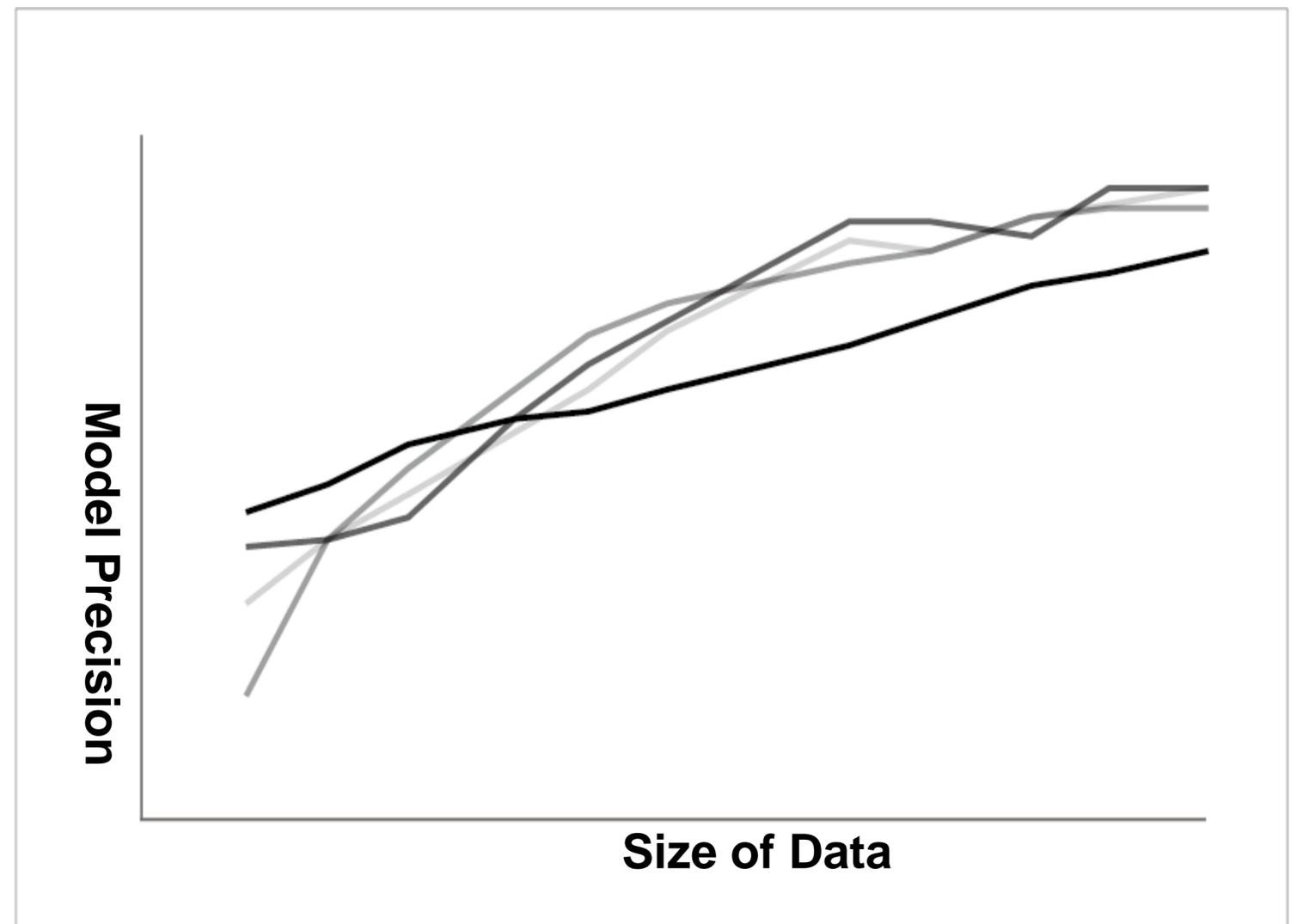
China's unicorn in
consumer AI chip

Reason 5: Massive data is critical for AI product success

Big Market = Big Data = Best AI

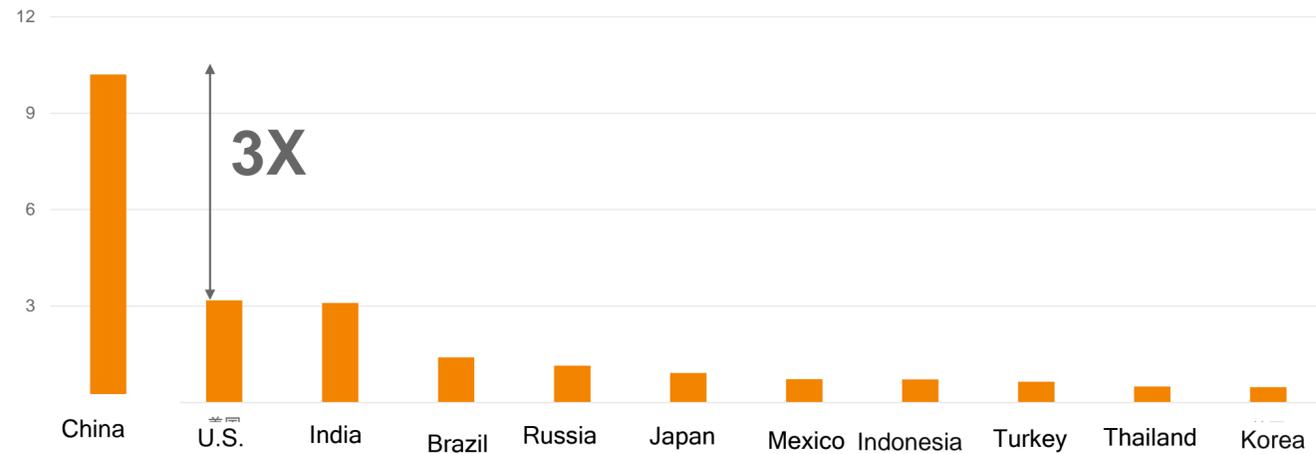


Algorithms are important
Data is even more critical

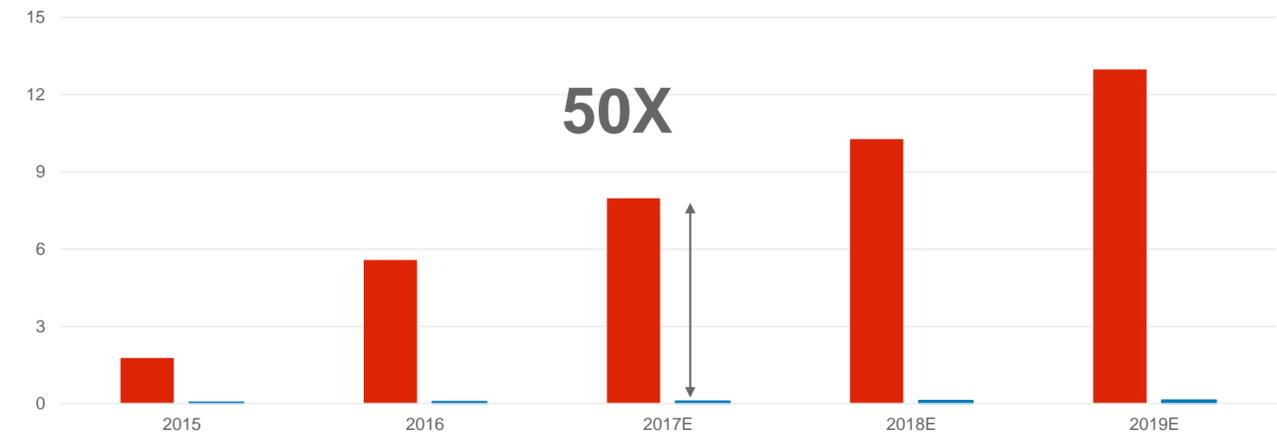


In the age of AI, China is the Saudi Arabia in data

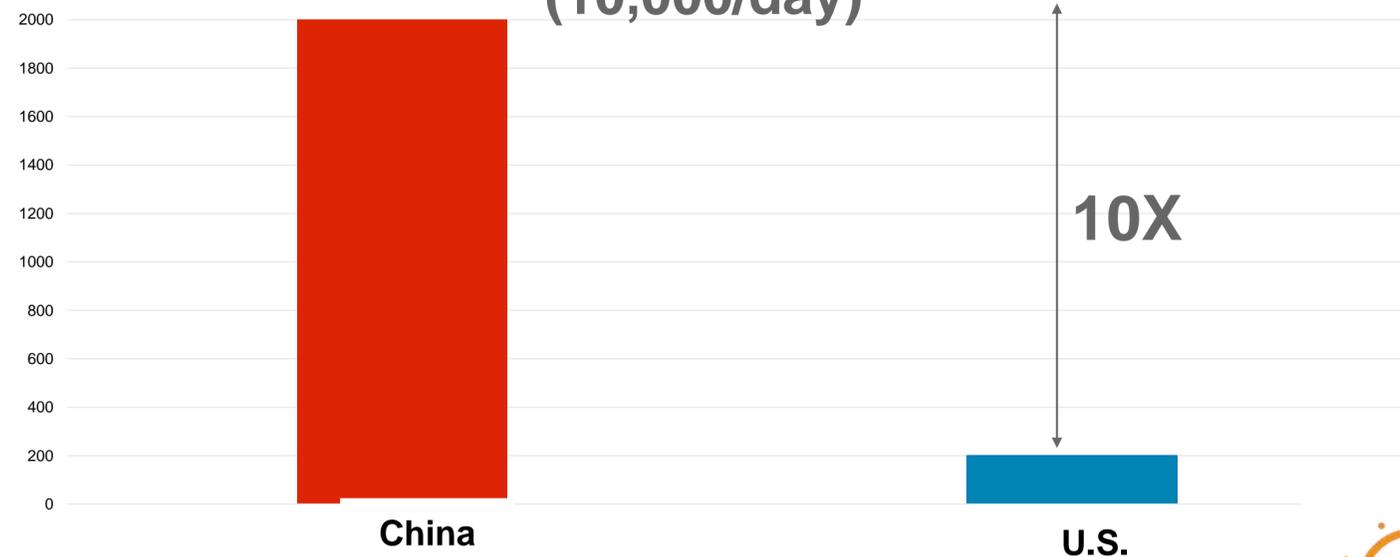
Mobile Internet users by country (100 million)



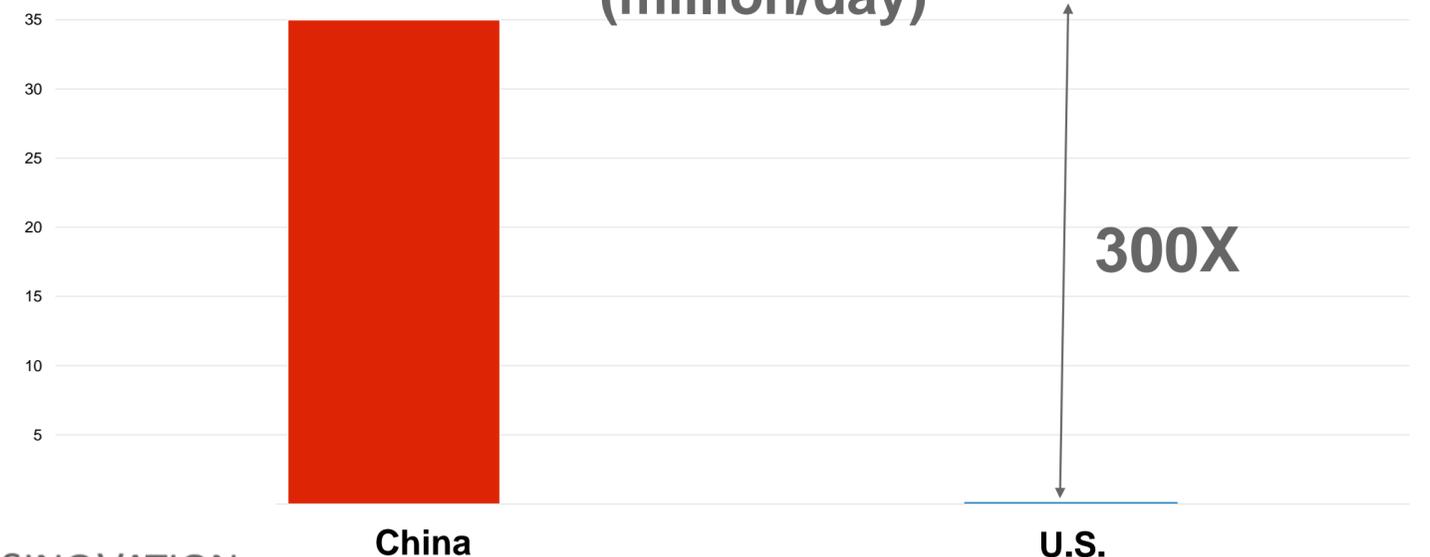
Mobile Internet, China vs. U.S. (USD trillion)



Food Delivery, China vs. U.S. (10,000/day)



Shared bike rides, China vs. U.S. (million/day)



Mobile payment everywhere

2017

China Mobile Payment

US \$18.8 trillion

2017

China GDP

US \$12.9 trillion



Reason 6: Techno-utilitarian Chinese policies



Setting the tone: Chinese State Council AI Development Plan, July 2017

- By 2020: Lead AI technology & applications
- By 2030: Become global AI innovation hub

Infrastructure investments:

Xiong'an: New city with autonomous driving

- Two layers: one for automobiles, one for pedestrians

Zhejiang: New highway with sensors to improve safety

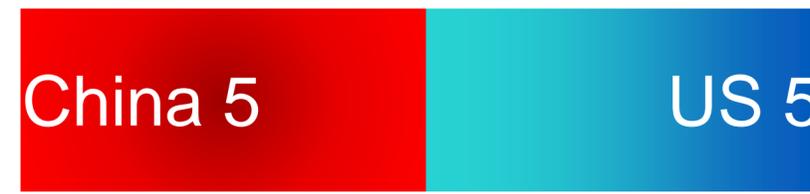
AI Implementation: China's growing rapidly and cannot be stopped

2013

2018

2023

Internet AI



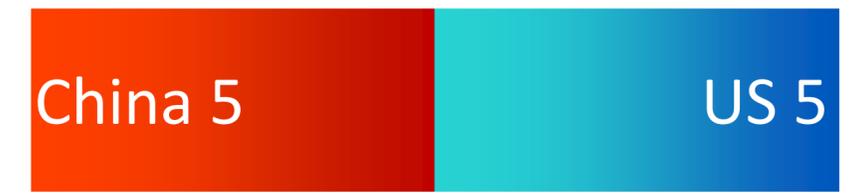
Business AI



Perception AI

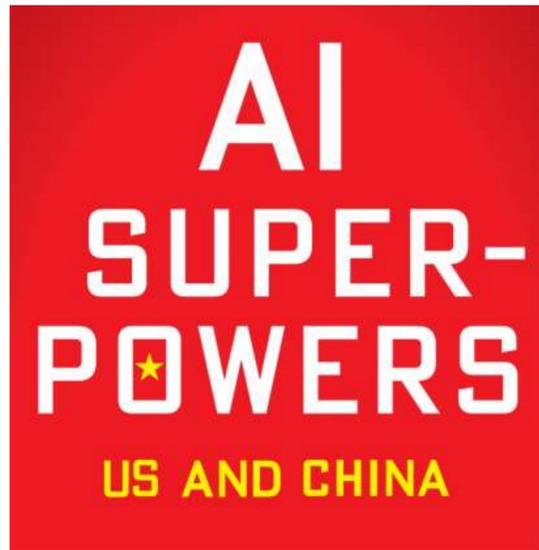


Automation AI



The Four Forces Accelerating AI

1 Sino-US dual engine



2 7 giants with own virtuous cycle



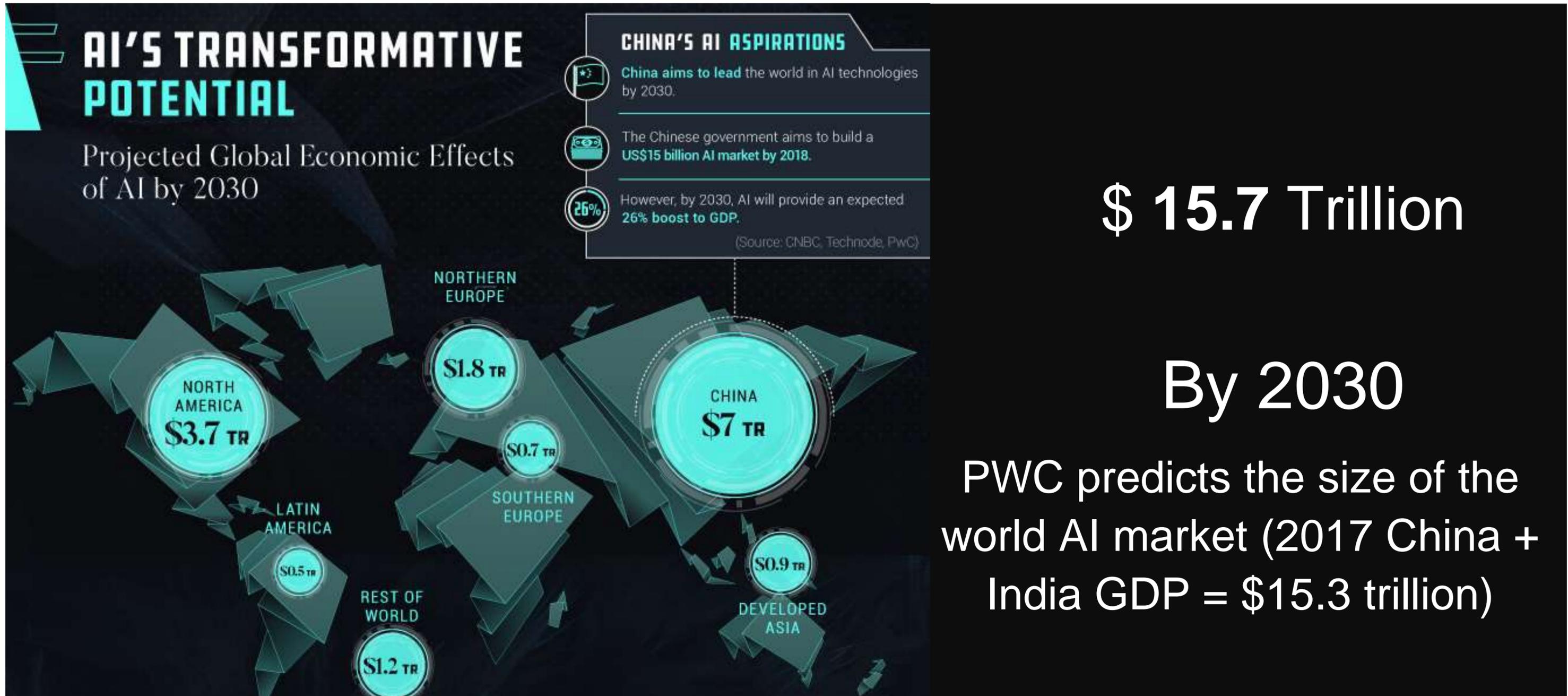
3 AI VC & funds growing rapidly



4 AI platform emerging; many apps coming



Today's AI + extrapolations will create unprecedented wealth



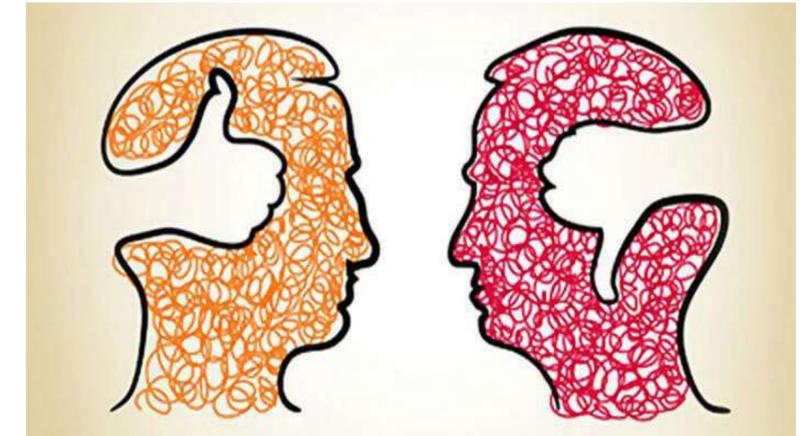
AI will also cause unprecedented challenges



Privacy

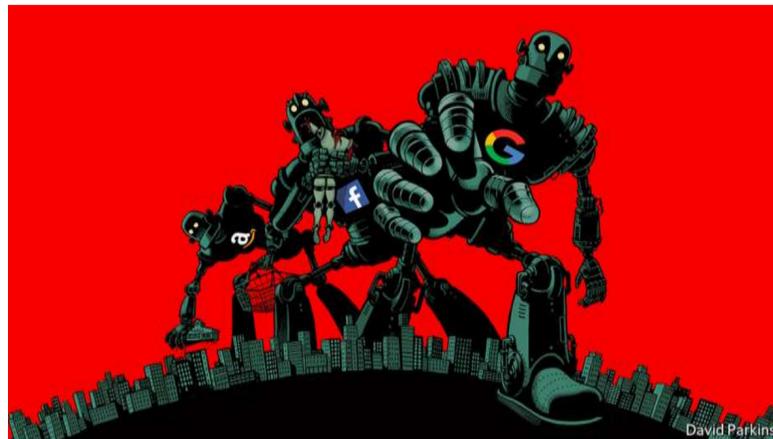


Security

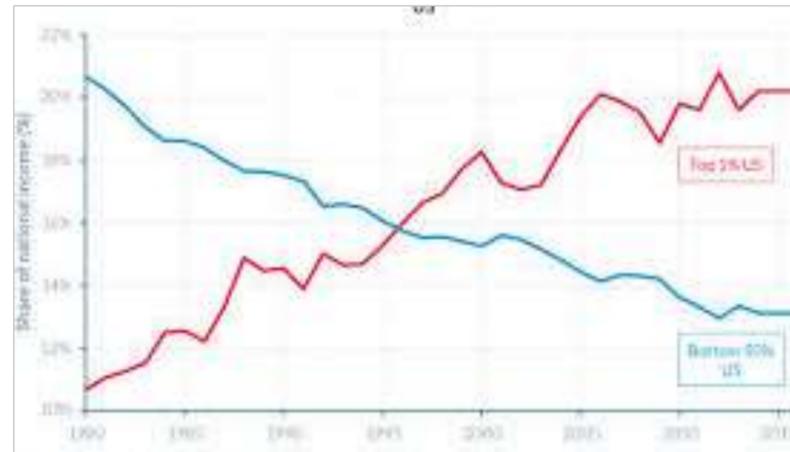


Bias from Data

Giant Dominance



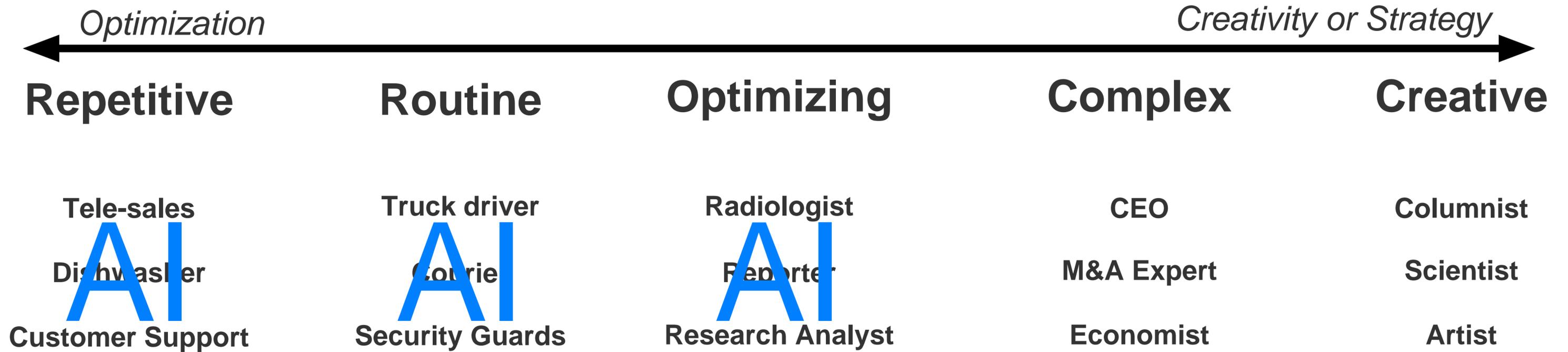
Wealth Inequality



Job Displacement



AI Displaces Jobs Much More Than It Creates



5

years

10

years

15

years

SAFE



Whew!

The Displacement is Happening ... Starting NOW!!

White collar

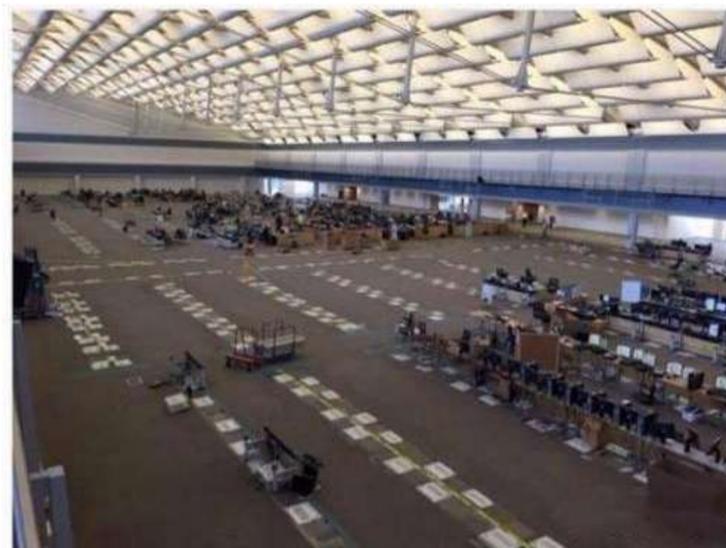
Blue collar

FINANCIAL TIMES

Citi issues stark warning on automation of bank jobs

Investment banking leaders eye future in which machines take over 'lower-value tasks'

Citigroup's investment bank has suggested that it will shed up to half of its 20,000 technology and operations staff in the next five years, as machines supplant humans at a faster pace.



Wave of Unemployed All Becoming “Creative”?

Optimization

Creativity or Strategy



Complex

Creative

CEO

Columnist

M&A Expert

Scientist

Economist

Artist

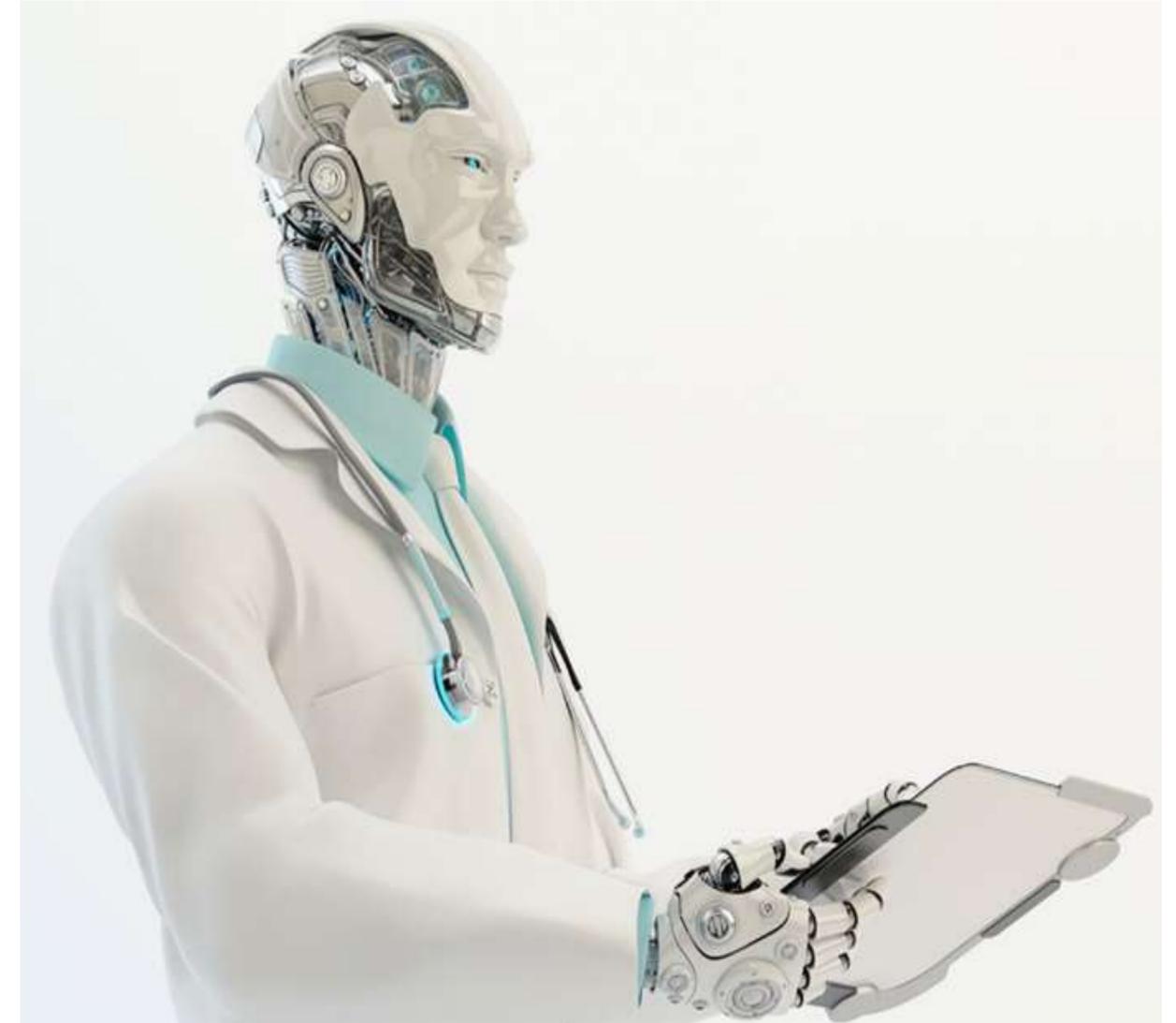
SAFE

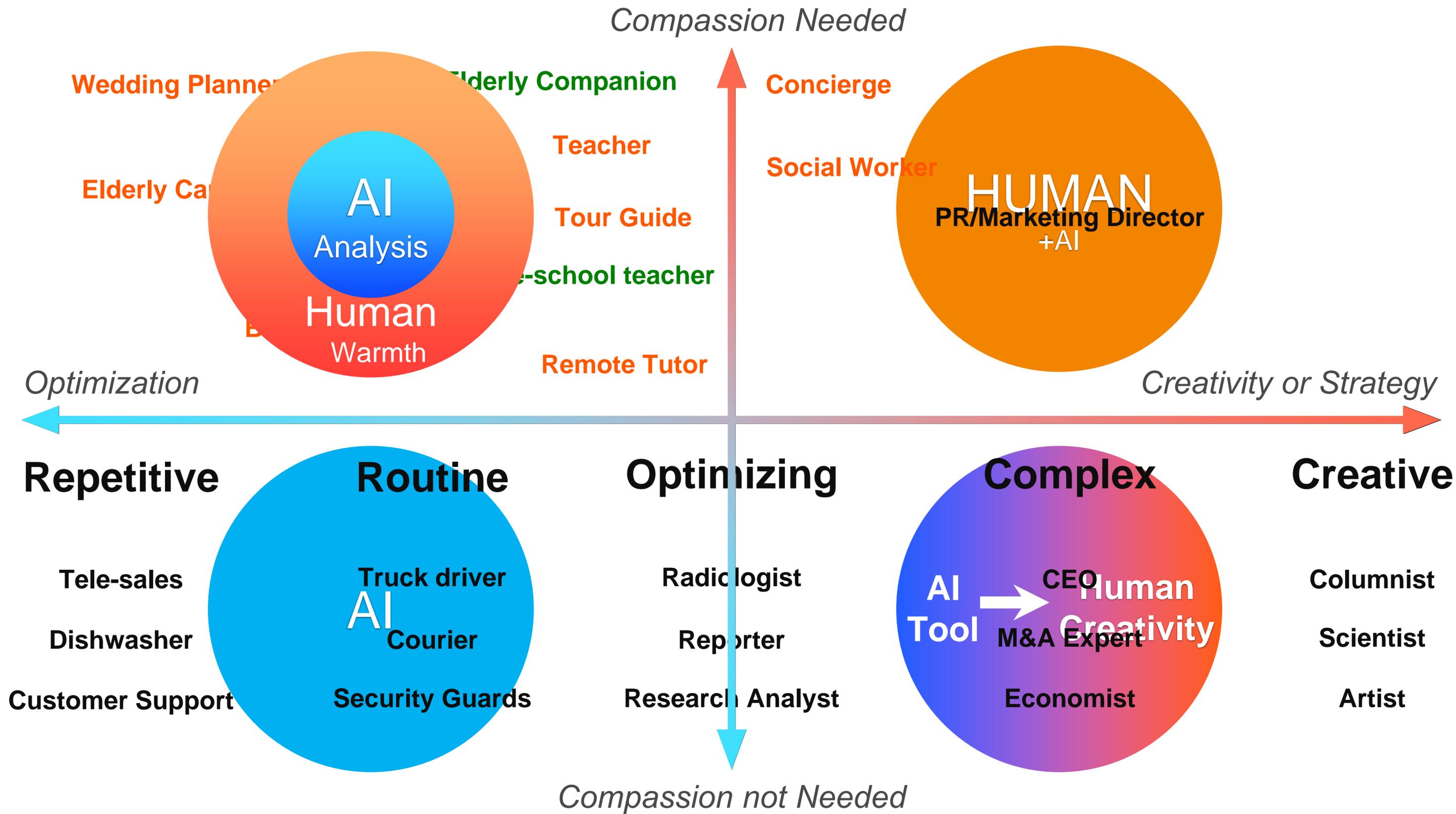
SAFE

The Two Weaknesses of AI: No Creativity & No Love!

AI is just a tool, and cannot create

AI has no self-awareness or love





AI: Era of Human Enlightenment

1. Be thankful of the AI Era:

- Liberate us from routine work
- Push us into thinking what makes us human

2. Be responsible for humanity:

- We have free will,
- and must choose to write our ending to the AI story

Conclusion: 21st Century Will be Remembered by

The arrival of AI

Driven by 2 AI superpowers

To get complete copy of slides
text “AI” to **345345**

To buy an autographed book,
visit: **signedcopy.co/aibook**

