

# The Geopolitics of Artificial Intelligence



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pirate security  
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# The Speaker

20 Years in Information Security and Data Protection



## Speaker / Author



## Standards and Policy



2011 →



# Introduction motivation

AI came of age at this time (even if it's actually only Machine Learning)

The potential applications are now on the radar of states and policymakers.

Its relevance for military power and consequently international relations is proved by the publication of almost 20 national AI strategies between 2017 and 2018. Last move (by the U.S. president) is dated February 11, 2019.

AI work happens in three environments:

- research/academia

- corporate R&D

- military.

While the first two are relatively open, the third (naturally more reserved) is becoming more relevant and trumping the others.

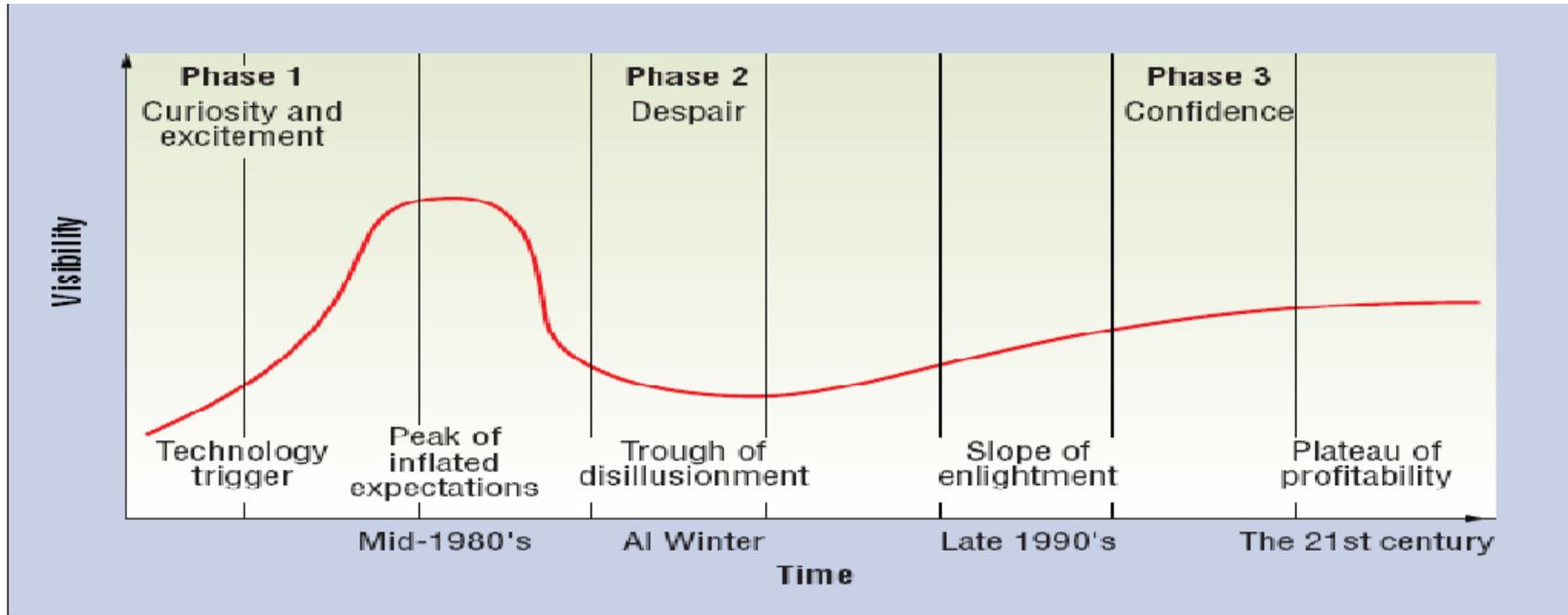
Ever increasing “national security” concerns and a general momentum for securitization in general.



# Artificial Intelligence?

The machines taking over? Not so fast...

A bit of history and the highs and lows of AI



From "The history of Artificial Intelligence" – Huang, Smith, 2006



# The reality...



Several algorithms and techniques, generally catalogued under the label of "Artificial Intelligence", have come of age in the last decade and have left the realm of academia for the real world.

They are however mostly domain- and task-specific:  
Recommender systems, natural language interfaces for virtual assistants, prediction systems and image classifiers are nowadays almost taken for granted and incorporated into consumer products.



# Motivation

Geopolitics is about (relative or absolute) power

Nowadays power comes from data and information: making sense of data and using it to influence others (key persons, rival countries, the public opinion). AI techniques are efficient tools to make sense of data and support decisions.

More data means better systems/models means more data and information.

If a state have the cycle working, growth is exponential.

Technology / ICT has switched from an enabler of the individual to an enabler of the state.

Economic growth factors:

- smart cities, efficiency

- consumer profiling as a competitive advantage

- longer lives with improved diagnosis and treatment mean better demography.



# Beyond the boundaries of the tech world

## Accelerating America's Leadership in Artificial Intelligence

February 11, 2019 | 4 minute read

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Office of Science and  
Technology Policy

 ALL NEWS

“  
Continued American leadership in Artificial Intelligence is of paramount importance to maintaining the economic and national security of the United States.”

*President Donald J. Trump*



[Chinese Vice-Premier Liu He speaks at the World Artificial Intelligence Conference in Shanghai.](#)



# AI and Military Power

AI for defence scenarios and challenges in the decision to resort to force:

- Machine Learning models in support of the decision making process (predictive models in intelligence are already widely used)
- Automation of defence (not only cyber-defence)
- Transparency of the automated decision making process.



# AI-powered information Warfare

A threat that is on the horizon for now: machine learning techniques used to inject false communications, from the tactical and purely military level to the strategic level, up to influence public opinion and the democratic process.

Tactical: False or contradictory orders

Strategic: False statements or positions by high-level policymakers or politicians



# The Context and the AI race

The general context.

Two major powers moving towards competition/rivalry and possible isolation.

Secondary powers (second-tier): Russia, UK, Israel, France, India

Trade confrontation (first phase of rivalry):

ZTE banned in April 2018 on doing business with US suppliers (later retracted)

Europe: The EU is an insignificant geopolitical power, and in AI as well...

EU also possibly hindered by GDPR – challenge is leveraging datasets while respecting individuals' rights. Europe could be a leader or a complete disaster

The tenets of open internet (and liberal democracy spreading by default) fading away: borders are coming up in cyberspace. China took control of its cyber borders and uses technology as an enabler for the authoritarian state (the contagion has spread west as well). Russia is following suit.



# China

2016: AlphaGo defeats world champion – China took notice also for cultural reasons

2017: AlphaGo won against Ke Jie (Chinese 1<sup>st</sup> ranked master).

2017 “Next Generation AI Development Plan” This spurred activities at the ministerial and later the “private” company level..

18/10/2017 Communist Party Congress: Xi mention AI/BigData/Internet as core technologies helping PRC to transform into an advanced economy.

The wheels turn.

Alibaba: Hangzhou – traffic cameras data for the optimization of traffic flow. - “City Brain”

Planned SEZ 100km SW of Beijing

WeChat – occupies FB, twitter, online payments spaces in China – an ideal source of data

Tech companies expanding: Huawei labs in EU (Not far from here) / Baidu & Tencent in the U.S.

The SOCIAL SCORE system.



# China

Sphere of influence building: SEA, Africa

May 2018 – CloudWalk builds AI face recognition system in Zimbabwe.

This can be considered as an exemplar of “data colonization”...

## Advantages:

Access to huge amounts of data (800 million users online in the PRC sovereign space).

Lax privacy protection and barriers to reuse and aggregation of data.

Close connection of the tech companies with the state (the party). (“Communist party committed” inside companies expanded under Xi).

## The AI National Team:



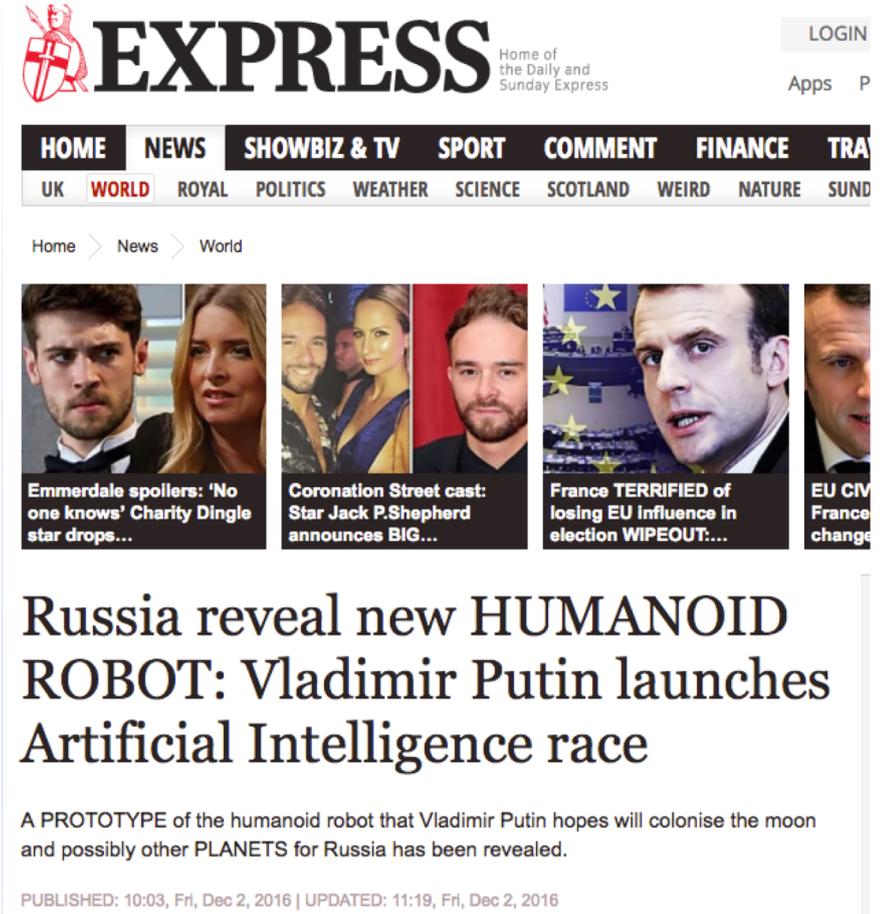
# Russia

“The one who becomes a leader in this sphere [AI] will be the ruler of the world”

*The future of humankind 9/2017*

Self-image vs. reality:

- *Weak R&D development*
- *Poor business environment*
- *Authoritarian state (attempts to create artificial “silicon valleys”)*
- *Demographic crisis / lack of talents*



The screenshot shows the Express news website. At the top, the Express logo is displayed with the tagline "Home of the Daily and Sunday Express". Navigation tabs include HOME, NEWS, SHOWBIZ & TV, SPORT, COMMENT, FINANCE, and TRAVEL. Below these are sub-tabs for UK, WORLD, ROYAL, POLITICS, WEATHER, SCIENCE, SCOTLAND, WEIRD, NATURE, and SUNDAY. The main content area features a row of four news thumbnails with headlines: "Emmerdale spoilers: 'No one knows' Charity Dingle star drops...", "Coronation Street cast: Star Jack P. Shepherd announces BIG...", "France TERRIFIED of losing EU influence in election WIPEOUT:...", and "EU CIV France change". The main headline reads "Russia reveal new HUMANOID ROBOT: Vladimir Putin launches Artificial Intelligence race". Below the headline is a sub-headline: "A PROTOTYPE of the humanoid robot that Vladimir Putin hopes will colonise the moon and possibly other PLANETS for Russia has been revealed." At the bottom, it says "PUBLISHED: 10:03, Fri, Dec 2, 2016 | UPDATED: 11:19, Fri, Dec 2, 2016".

## Russia reveal new HUMANOID ROBOT: Vladimir Putin launches Artificial Intelligence race

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# The United States

## Government

Several reports produced under the Obama administration.

Seemed not interested in AI during first part of Trump administration. Military pressure however was high to engage in this field (for cyberwarfare purposes).

## Private sector

Strange competition between a military-industrial complex heritage of the cold war (Lockheed, Raytheon et al. as “quasipublic” entities) and a (supposedly) anti-establishment attitude of Silicon Valley. (Google and project Maven).

Administration woke up on AI a few days ago...

In any case the US is clearly the leader on AI



# The American AI Initiative

EXECUTIVE ORDERS

## Executive Order on Maintaining American Leadership in Artificial Intelligence

— INFRASTRUCTURE & TECHNOLOGY | Issued on: February 11, 2019



1. Investing in AI Research and Development (R&D)
2. Unleashing AI Resources
3. Setting AI Governance Standards
4. Building the AI Workforce
5. International Engagement and Protecting our AI Advantage



# The others

**France** – The president himself engaged in AI in a speech at the College de France in March 2018

€ 1.5 Billion investment plan

1 – Attractiveness: National AI Programme of five research centres

2 – Open data policy to drive adoption

3 – Regulatory and financial framework

4 – Ethics regulation

## **UK**

AI sector deal – April 2018 – comprehensive approach

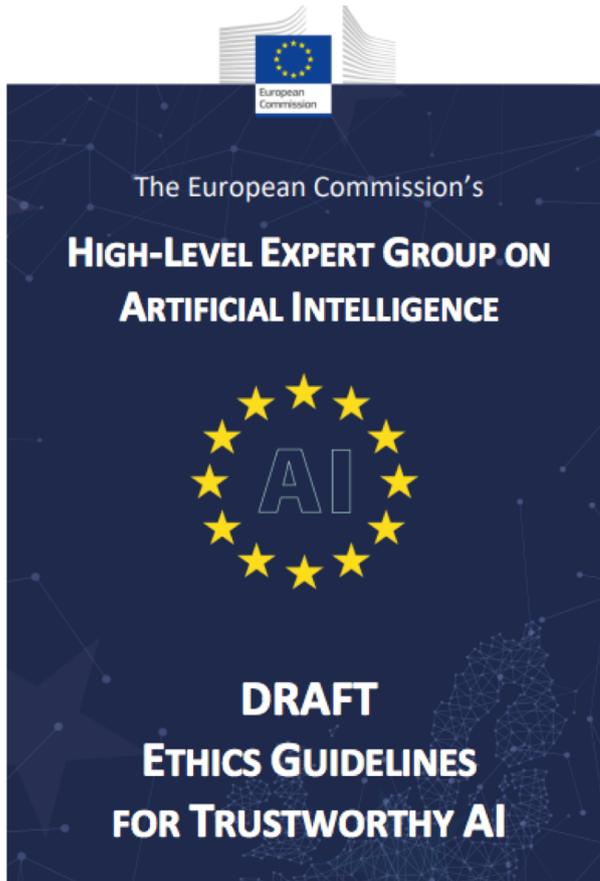
Lords' AI in the UK report and Government response

## **Israel**

Strong integrated approach, state-driven and emphasising defence



# The EU



The European Union – a geopolitical ghost...

Regulatory framework could be hindering the process, see GDPR.

Focused on ethics and regulation more than anything.

No military to apply the technology to and lead the effort.

No tech giants to drive the private sector contribution.

R&D expenses are high but results are poor at the European level.



# Scenarios

A – Arms race

B – Power flowing to the data users – from the data suppliers (able to extract value from raw data)

C – Only alternative is to develop a strong regulation approach, hindering the free flow of data...

D – Looking bleak for Europe if we do not develop a strong AI sector and a unified approach

Data is the new oil in more sense than one – prone to be exploited not by the actor the holds them



# Conclusion

Cold war could very well happen again (with China in Russia's place): would increase autarchy, respective embargoes, less exchange even in academia, increased influence of military, secret patents etc etc.

All leading to two separated spheres of influence and technological ecosystems. An open, worldwide internet seems doomed to be a thing of the past.

But... how much more intrusions could the Chinese tolerate in exchange for cohesion and security?

At the moment, in geopolitical terms, all the other actors seems to be irrelevant.



# Thanks for Your Time

## What are your questions?

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**StAG – Information Governance**  
**[www.stagcyber.eu](http://www.stagcyber.eu)**



# References

## Policy Documents

Emmanuel Macron - Discours de President de la Republique “AI for Humanity” – 28 March 2018 <https://www.elysee.fr/emmanuel-macron/2018/03/29/discours-du-president-de-la-republique-sur-lintelligence-artificielle>

The European Commission’s HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE – “Ethics Guidelines for Trustworthy AI” (Draft) – December 2018

## References

Ashley Deeks, Noam Lubell & Daragh Murray – Forthcoming 2019

Nicholas Thompson and Ian Bremmer “The AI War that Threatens us All” – Wired – 23/10/2018 <https://www.wired.com/story/ai-cold-war-china-could-doom-us-all/>

Henry Kissinger “How the Enlightenment Ends” – The Atlantic – June 2018 - <https://www.theatlantic.com/magazine/archive/2018/06/henry-kissinger-ai-could-mean-the-end-of-human-history/559124/>

Tim Dutton - “An Overview of National AI Strategies” – Medium.org – July 13, 2018 <https://medium.com/politics-ai/an-overview-of-national-ai-strategies-2a70ec6edfd>

