THE FUTURE SOCIETY

FACTS Reports

AI & Robotics in the City

27th February 2018

CITX
People for Global Transformation

THE AI INITIATIVE

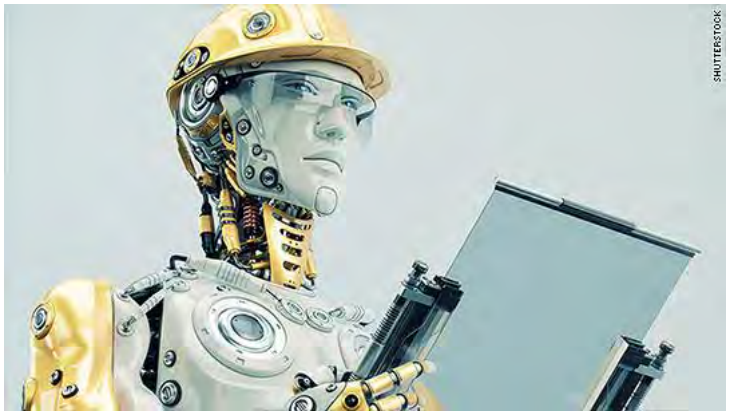
THE FUTURE SOCIETY

The Future Society at a Glance

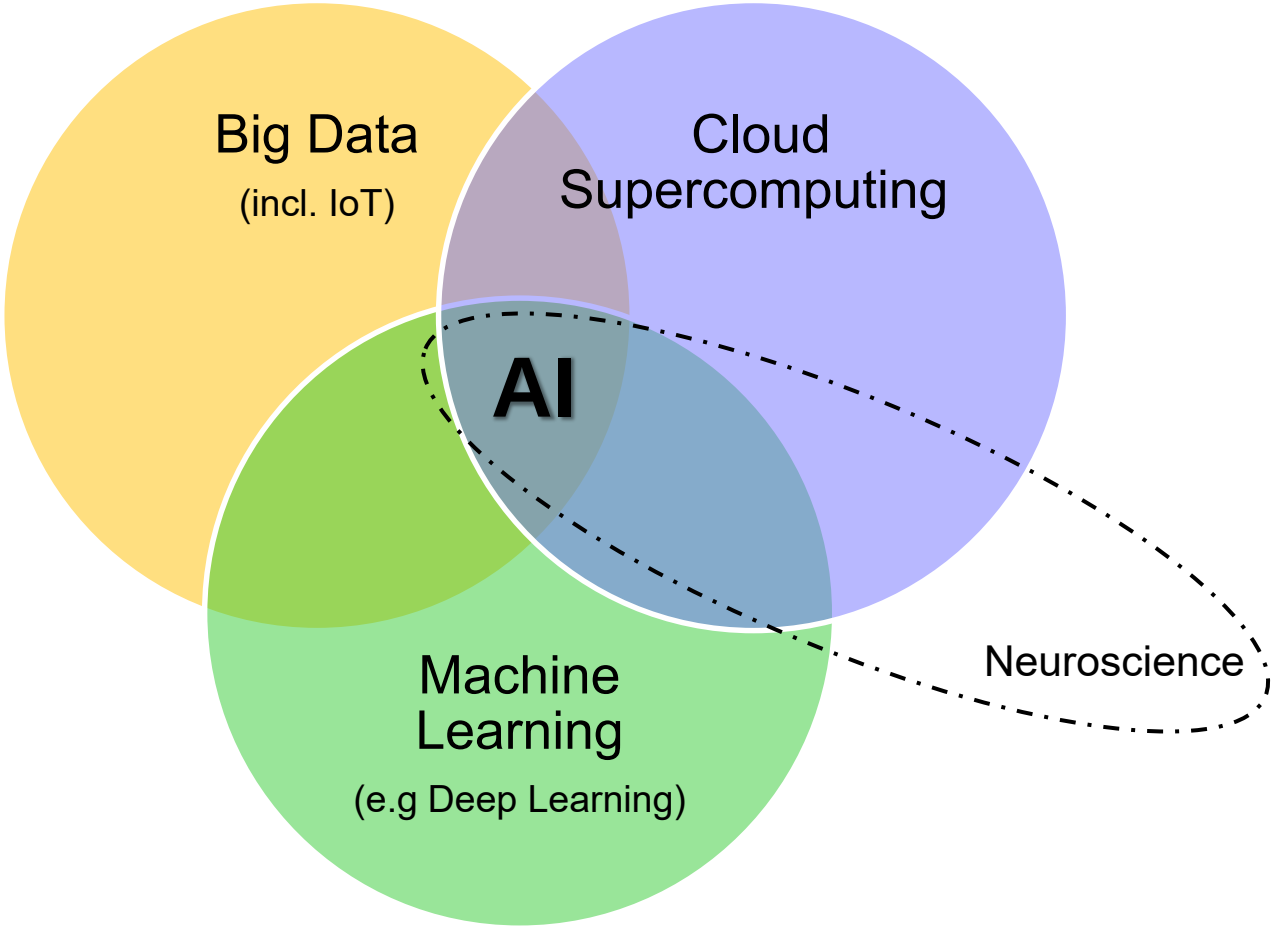
Founded	Sept. 2014 at Harvard Kennedy School, incorporated as 501(c)(3) in 2016
Chapters	USA (Boston, San Francisco), France, UAE, India, Mexico, Spain, Brazil, China, Japan, Russia
Advisors	Prof. Sheila Jasanoff, Prof. Joe Nye, Geoff Mulgan, Prof. Ronald Heifetz, Prof. Sandy Pentland, Tristan Harris, Brice Lalonde, and others
Topics	Artificial Intelligence Bioethics Biotech Design Ethics Nanotechnoloy Neuroscience Robotics & Automation Science & Technology Studies Transhumanism
Initiatives	The AI Initiative (AII) The Science, Law & Society Initiative (SLS) The CitX Initiative
Partners	HARVARD Kennedy School JOHN F. KENNEDY SCHOOL OF GOVERNMENT IEEE CNIL. SciencesPo. PARIS ie SCHOOL OF INTERNATIONAL RELATIONS OECD and others

Source: The Future Society

AI = a collective imaginary



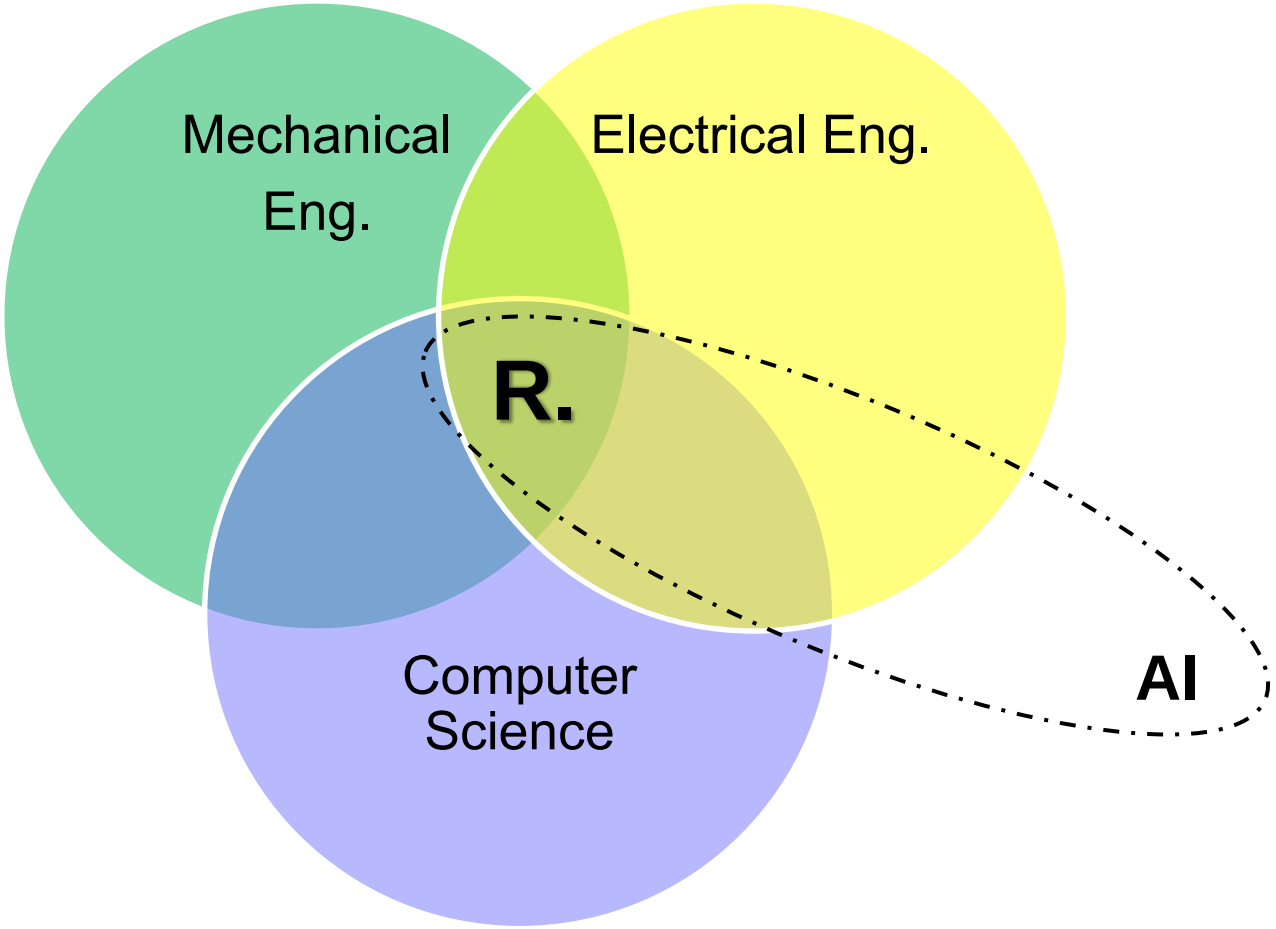
What is Artificial Intelligence?



Intelligent 'agents' (computer systems) able to learn, adapt and deploy successfully in dynamic and uncertain environments

MOSTLY IMMATERIAL ("machines without motor function")

What is Robotics?



Autonomous Machines

MOSTLY MATERIAL (…but an algorithm is a robot!)

The rise of "AI": a case of the NBIC tech acceleration & convergence

Nanotechnology

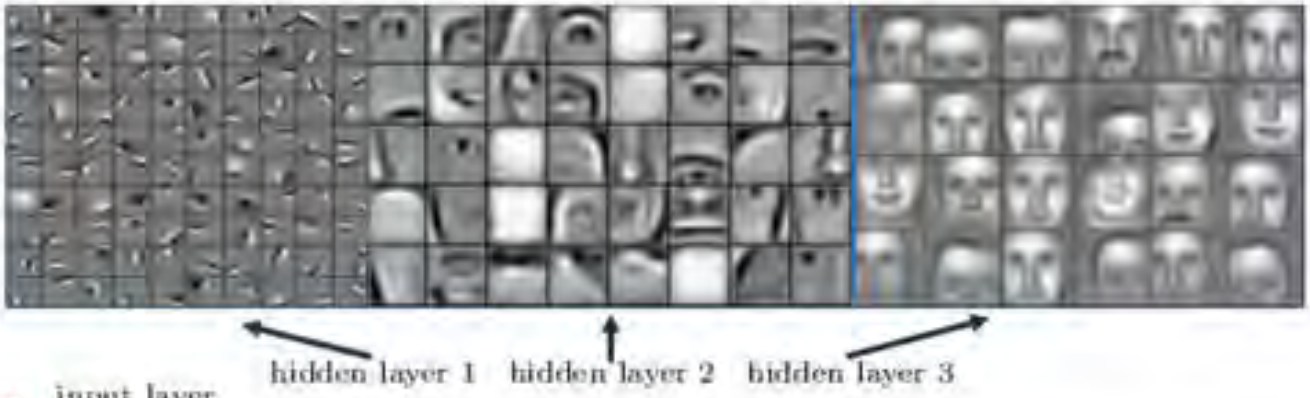
Biotechnology

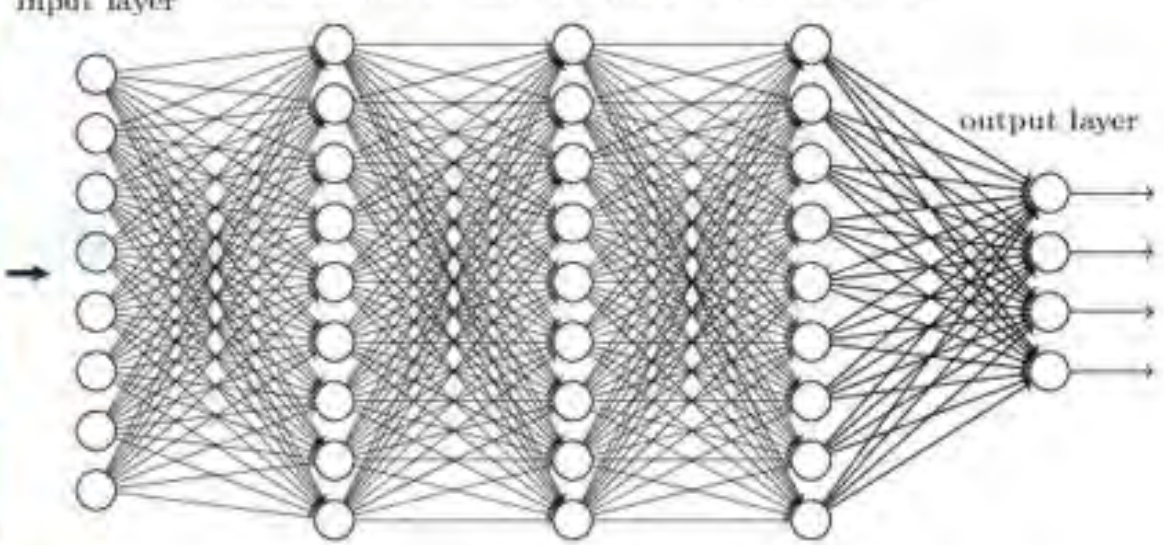
Information Technology

Cognitive Science

What is “Deep Learning”?

Deep neural networks learn hierarchical feature representations

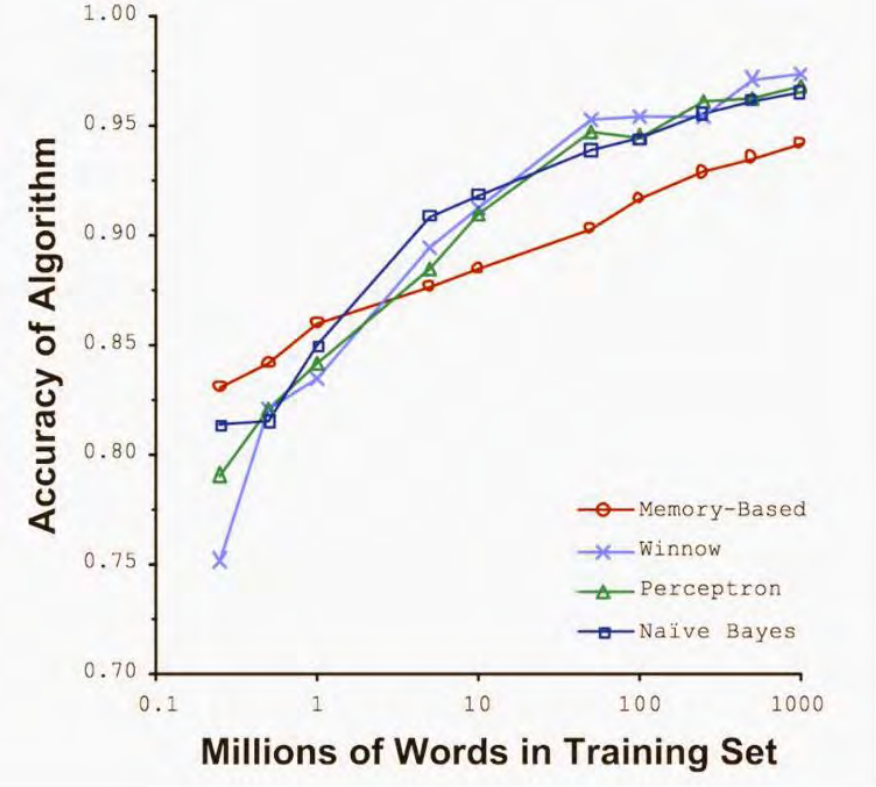




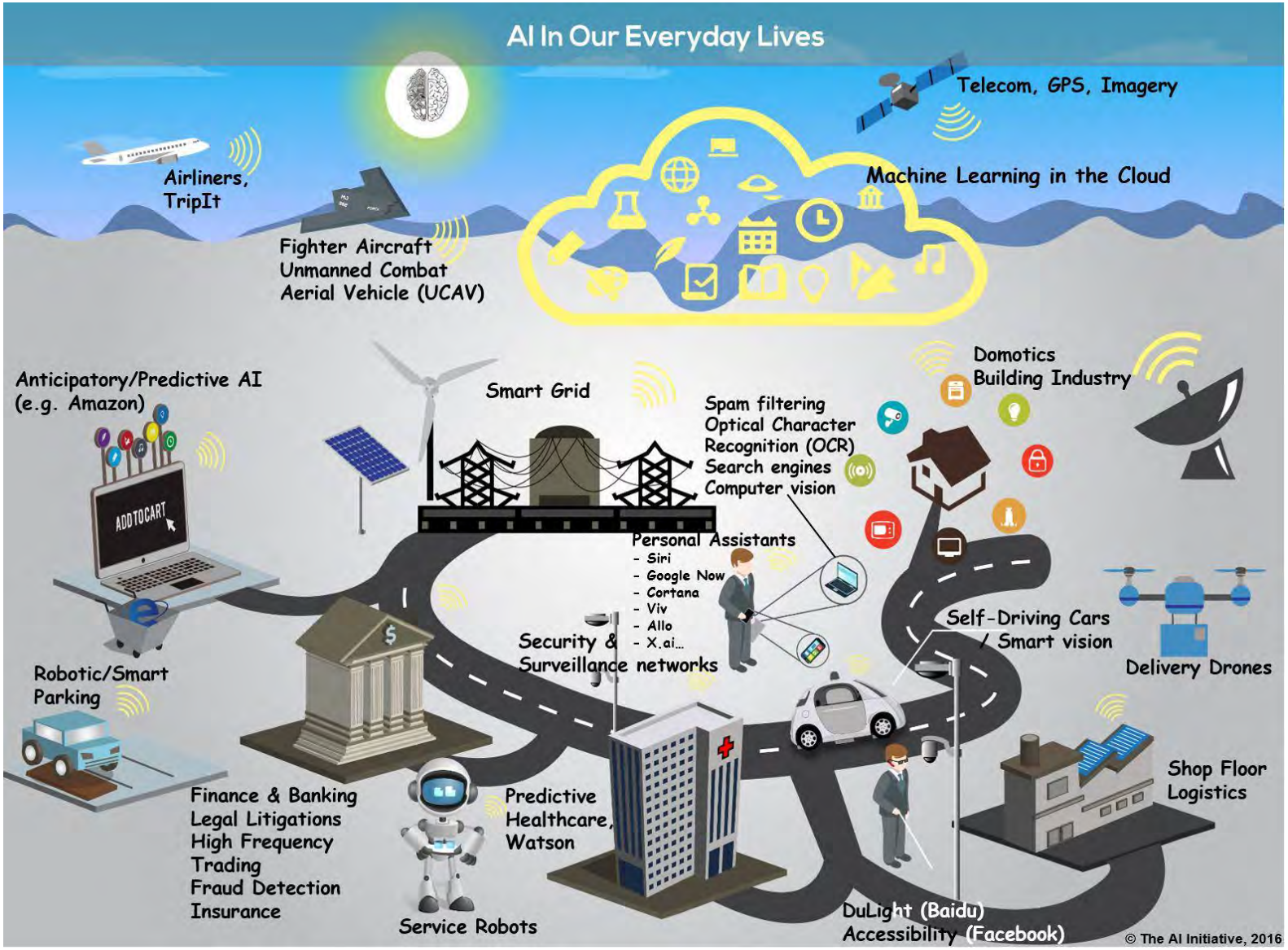
AI = Big Data

- Regulating the **free flow of high resolution/personal data** will be key **enabler or barrier** to the development of high performance AI platforms

- ✓ **Market Critical Mass** (integrated EU digital market vs. US vs. China vs. India vs. Russia vs. Brazil)
- ✓ **Portability of data** (key for latecomers to 'catch-up')
- ✓ **Regulation** of **personal data collection/storage/processing/owners hip** (EU vs. US, China, India, Russia…)
- ✓ Technical **standards** governing data sharing (W3C)

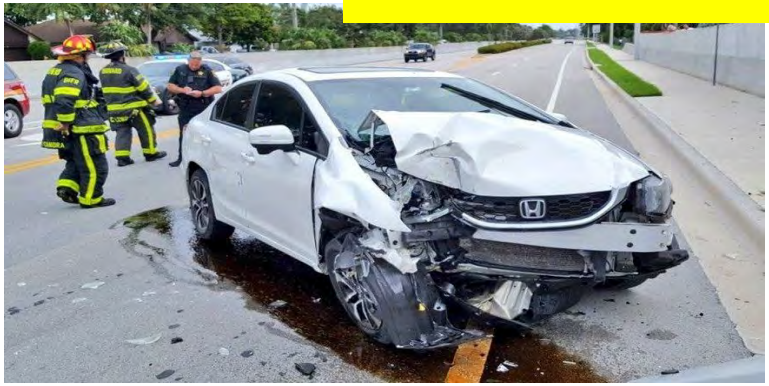


AI is getting into our lifes…..

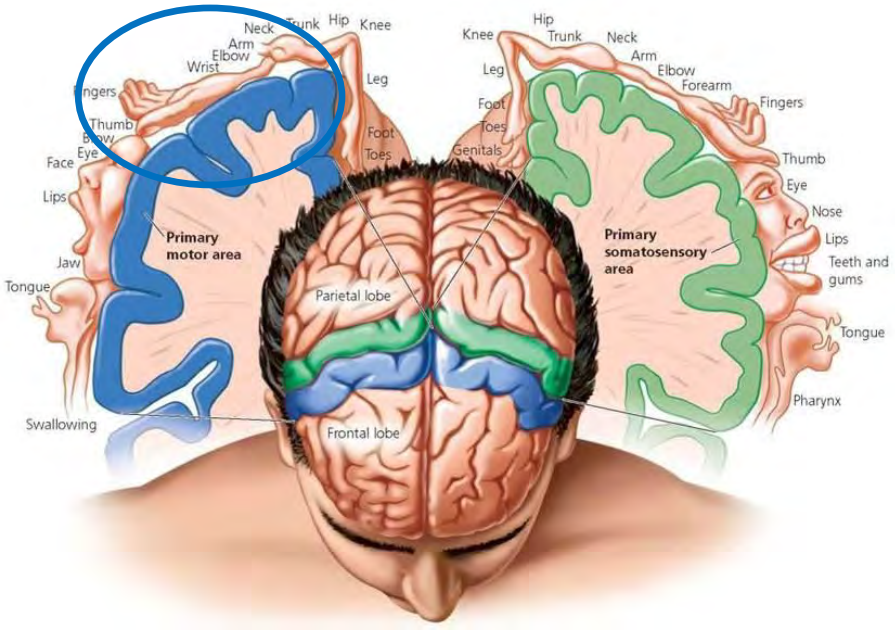


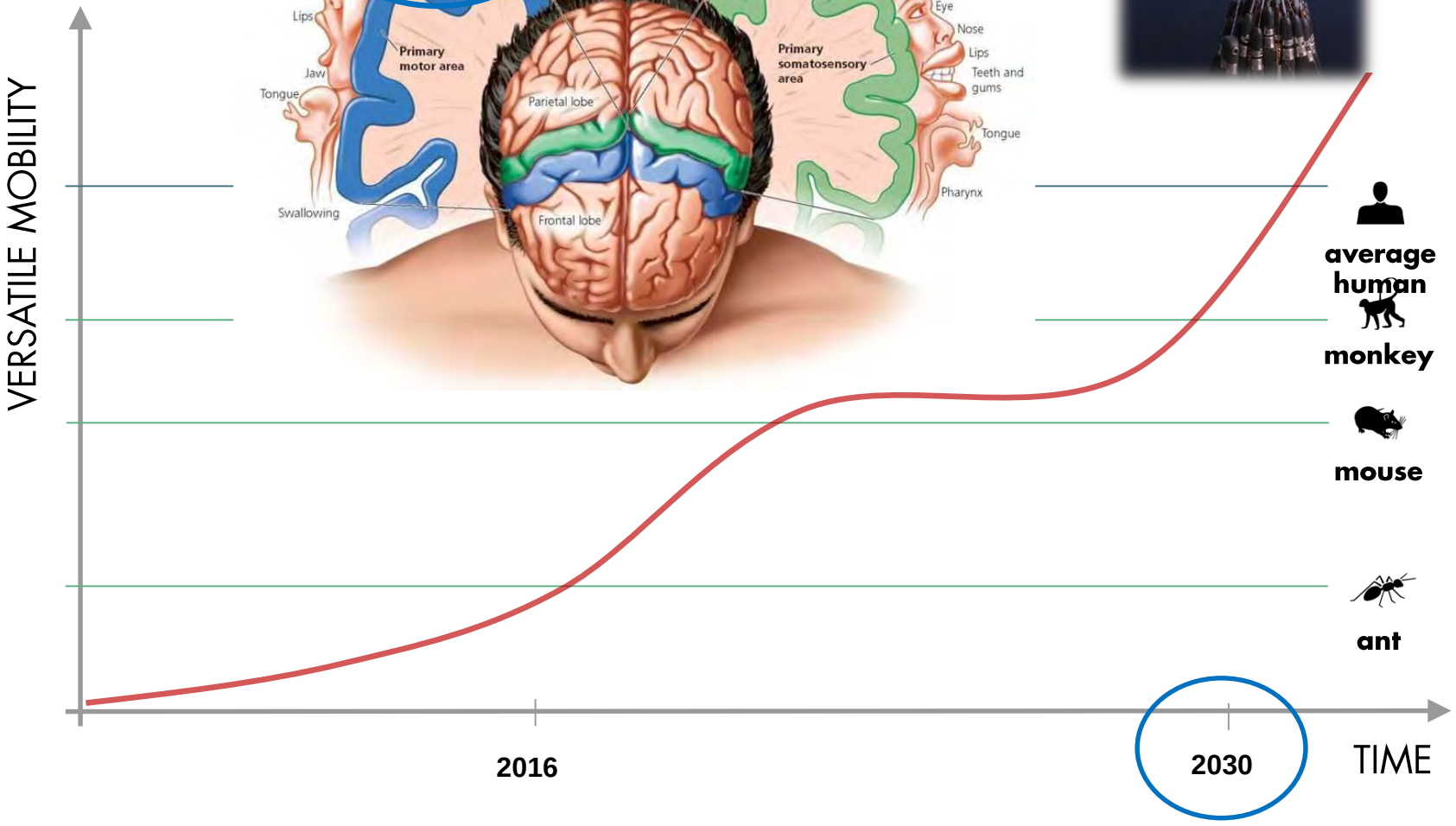
“Govern” as oppose to “Regulate” as the key metaphor

WE NEED AI!



The March of Robotics





What's at stake?

Opportunities & Risks are inextricably connected

PRODUCTIVITY GAINS ⇔ JOB DISPLACEMENT

SOCIAL WELFARE ⇔ WEALTH/POWER CONCENTRATION

ACCESS TO SERVICES ⇔ PRIVACY, FAIRNESS, AGENCY and DIGNITY

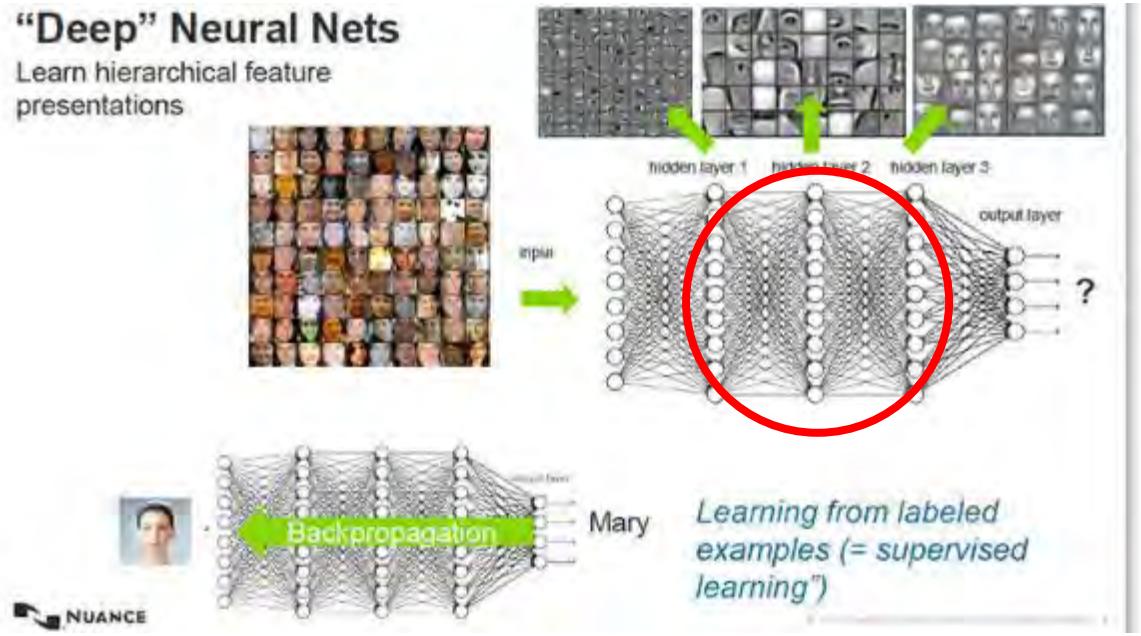
SECURITY with systems pierced by criminals and adversaries

CONTROL democratic control of increasingly opaque and complex algorithms

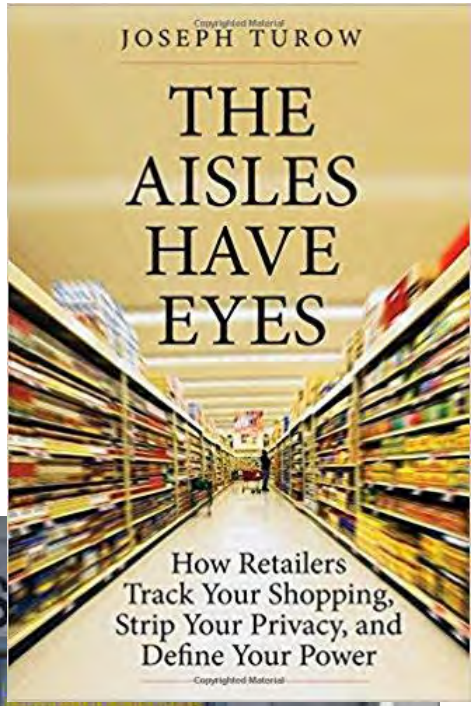
The black box problem….

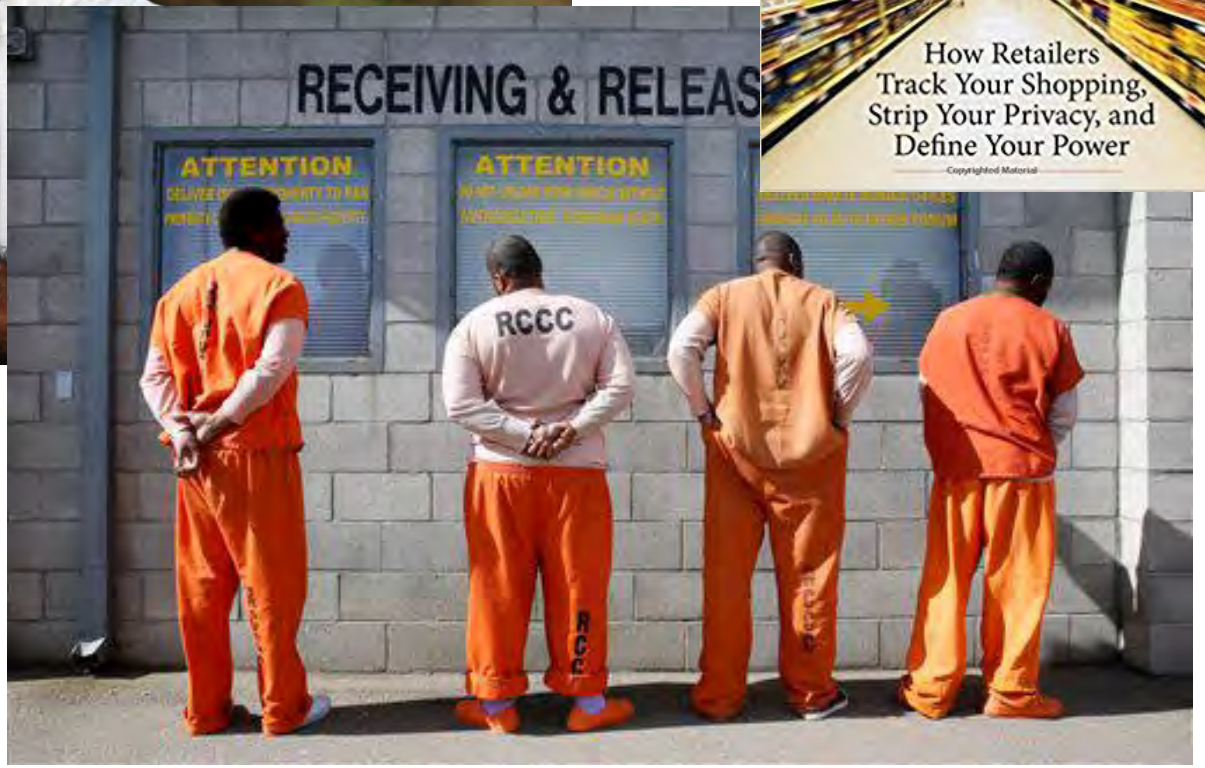
- Auditability? Certification?
- Tension between transparency and competitive dynamics
- Algorithmic bias

The Humans Working Behind the AI Curtain

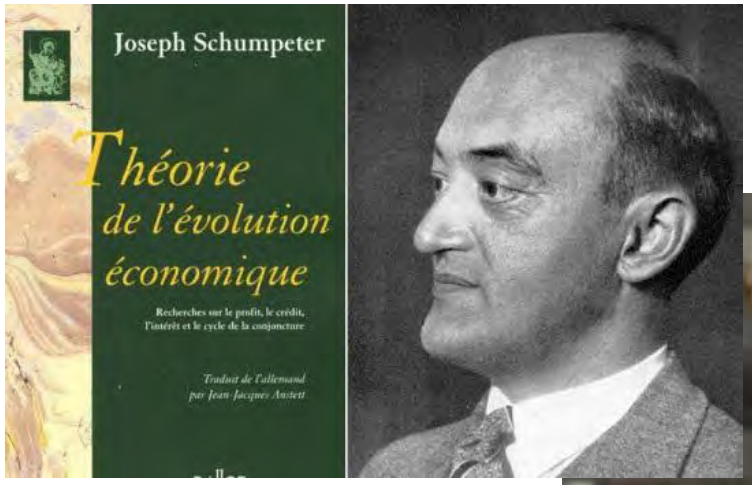


Access VS Privacy, Bias and Control



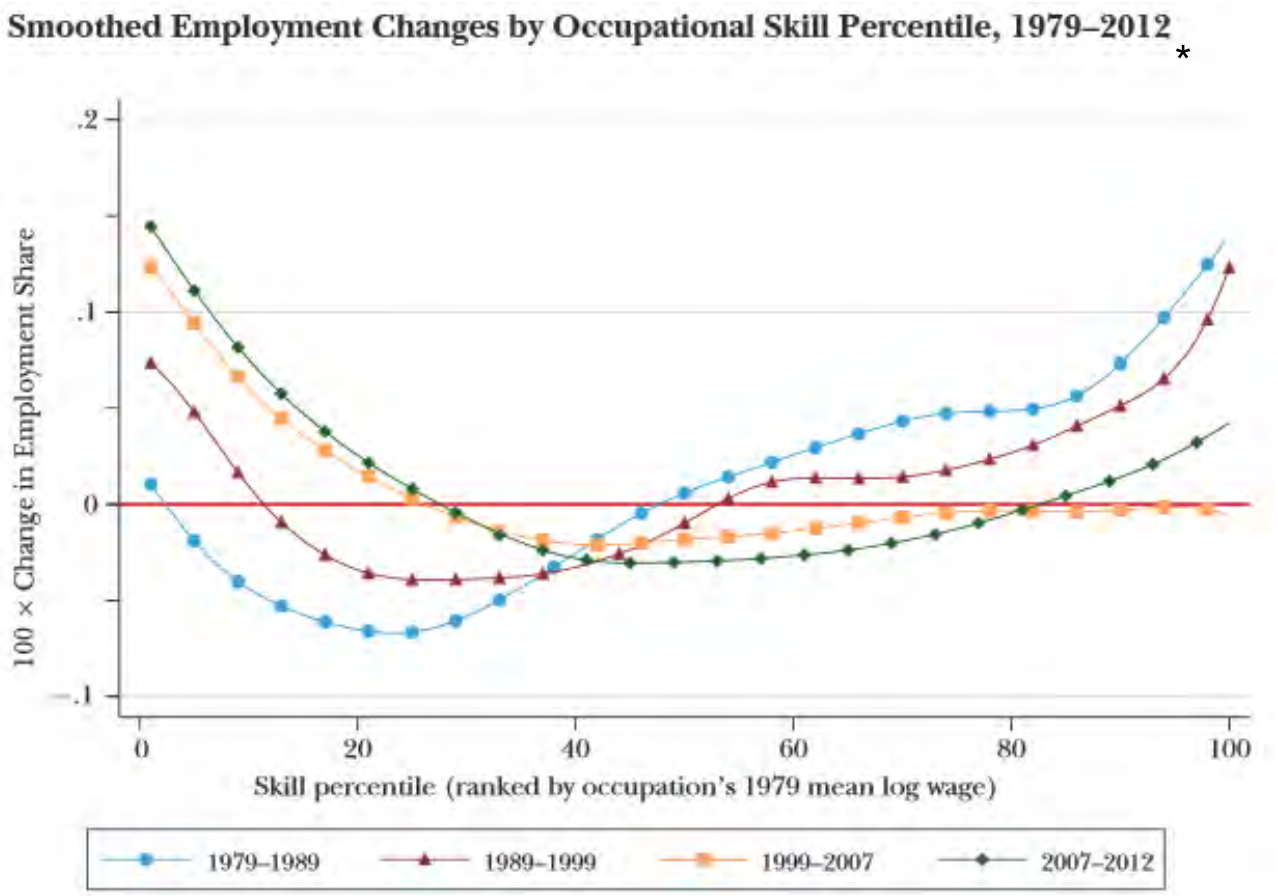


Creative destruction… or **Destructive** creation…?



The rise of AI & Robotics

Creative destruction….. or destructive creation?



*Source: David H. Autor, MIT 2015

HR Function **crucial** in the 21st century

Thank you.

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TheFutureSociety.org
AI-Initiative.org

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