

The UK

National AI Strategy

Professor Dame Wendy Hall
University of Southampton, UK



The UK's AI journey so far...



Oct 2017

Growing the AI industry in the UK

The Independent review carried out by Prof. Dame Wendy Hall and Jérôme Pesenti reported how the AI industry can be grown in the UK.



Apr 2018

Groundbreaking AI Sector Deal

In response to the recommendations of the AI Review the government and the UK's AI ecosystem agreed a near £1 billion Sector Deal to boost the UK's global position as a leader in AI.



Jan 2021

AI Council AI Roadmap

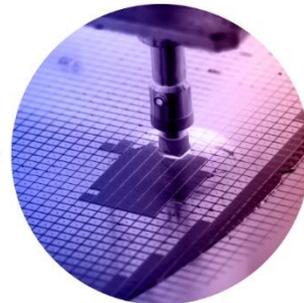
The AI Roadmap called for the government to develop a national strategy for AI to prioritise and set a time frame that will position the UK for success.



Sep 2021

National AI Strategy

A ten-year plan to make Britain a global AI superpower that can and will adapt to changing circumstances to ensure the most effective delivery in the wider context of the fast-moving state of AI tech.



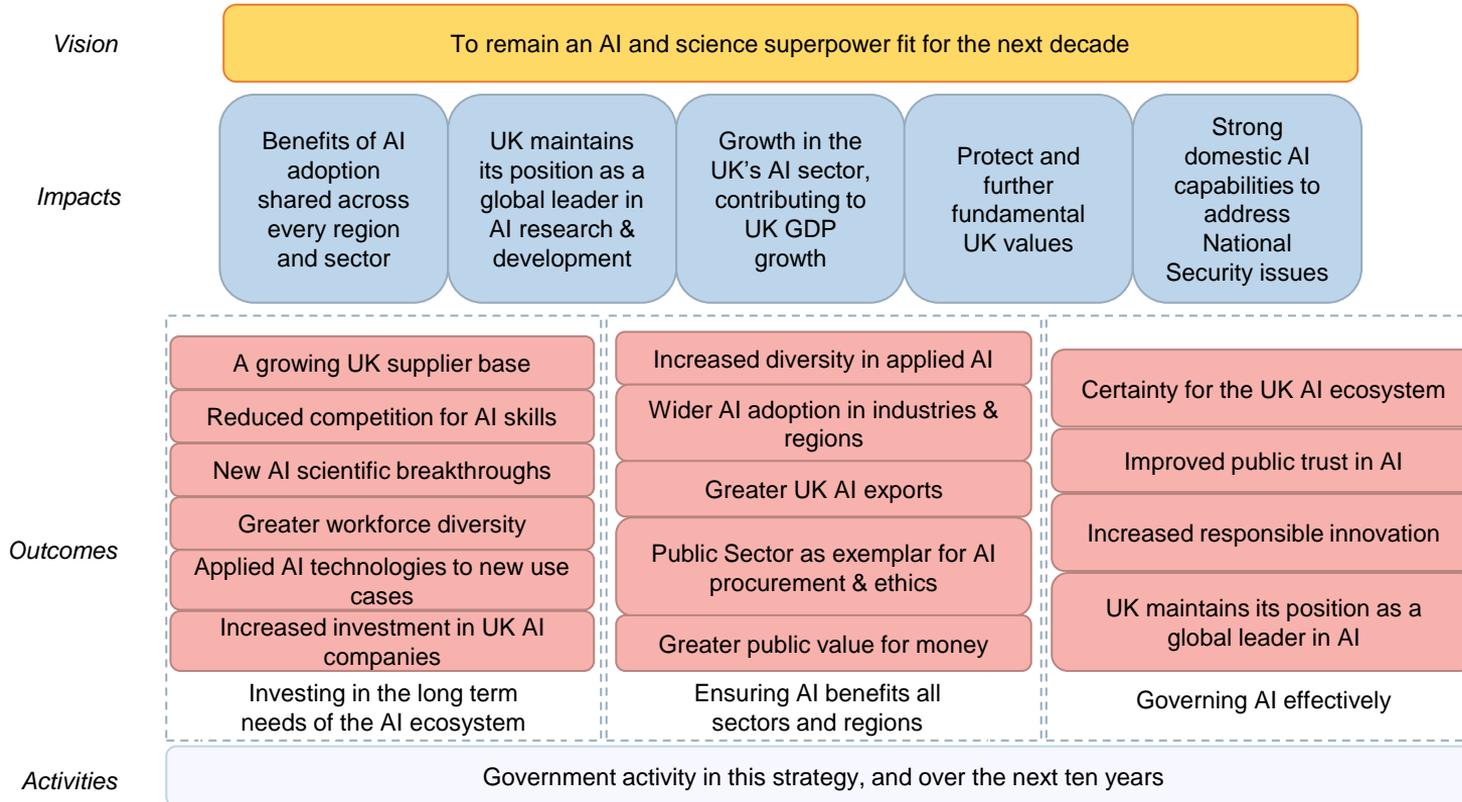
Delivery Plan

Following the Spending Review we will publish a Delivery Plan that will set out our approach to monitoring and delivering the National AI Strategy in more detail, including the level of investment in AI.



National AI Strategy

Delivering Strategic Advantage through the National AI Strategy





Data trusts

ODI open data institute

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Data Trusts

Data trusts: lessons from three pilots (report)

Mon Apr 15, 2019

[Share](#)

Data trusts could be a useful way of increasing access to data while retaining trust, our latest report finds

Ada Lovelace Institute

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Report [Data for the public good](#)

Exploring legal mechanisms for data stewardship

A joint publication with the AI Council, which explores three legal mechanisms that could help facilitate responsible data stewardship

4 March 2021



Driving AI adoption

NHS Artificial Intelligence in Health and Care Award



- ◆ The AI in Health and Care Award aims to benefit patients by combining the power of artificial intelligence with the expertise of the NHS to improve health and care outcomes.
- ◆ The Award is making £140 million available over four years to accelerate the testing and evaluation of technologies most likely to provide high quality lifesaving treatment and care for patients and their families, and to reduce pressure on hard working NHS staff.

AI growth programme: Tech Nation Applied AI



- ◆ The programme helps nurture the UK's most talented entrepreneurs in AI.
- ◆ Now in its third year, of the 32 companies chosen, 44% of the founders are female, which is almost double the representation of female tech directors (23%) in UK tech.
- ◆ Almost half (47%) of the companies are based outside of London.

The STFC Hartree Centre



- ◆ The STFC Hartree Centre enables UK businesses and the public sector to explore and adopt innovative new digital technologies including AI and quantum computing for productivity, innovation and economic growth.
- ◆ The new Hartree National Centre for Digital Innovation – opening in 2022 - is a collaborative programme with IBM which will enable businesses to acquire the skills, knowledge and technical capability required to adopt digital technologies like supercomputing, data analytics, AI and QC.

New AI marketplace



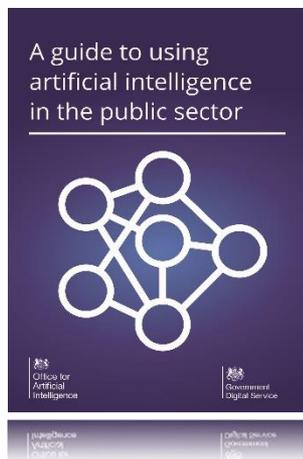
- ◆ The new AI Dynamic Purchasing system connects teams in the public sector with private sector expertise and experience.
- ◆ New and emerging suppliers - with fresh ideas - are now able to bid for government contracts, enabling the government to be a driver for AI innovation.
- ◆ All suppliers will need to address ethical considerations when providing AI services to public sector.



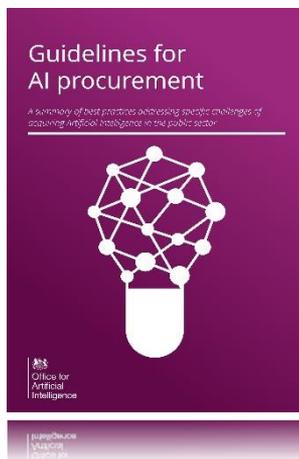
Working with AI

Our goal is to make the public sector lead in the safe and ethical adoption of AI, deliver more for less, while improving public services.

A guide to using AI in the public sector



Guidelines for AI procurement



Ethics, Transparency and Accountability Framework for Automated Decision-making



Explaining decisions made with AI

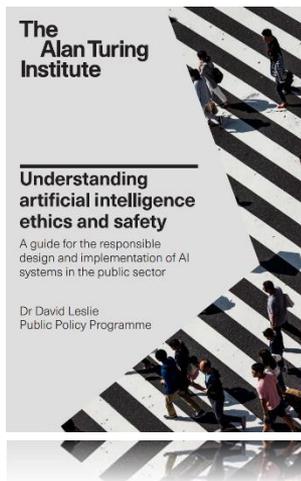




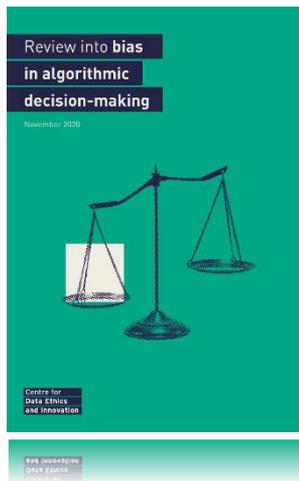
We have a rich library of work on AI and Data

All guidelines on AI and Data can be found on GOV.UK.

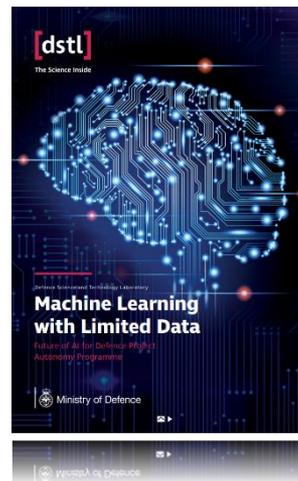
Understanding AI ethics and safety (The Alan Turing Institute)



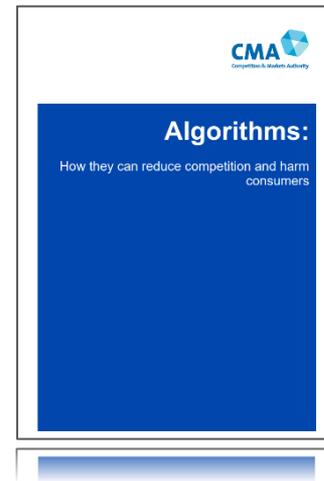
Review into bias in algorithmic decision-making (CDEI)



Machine learning with limited data (dstl)



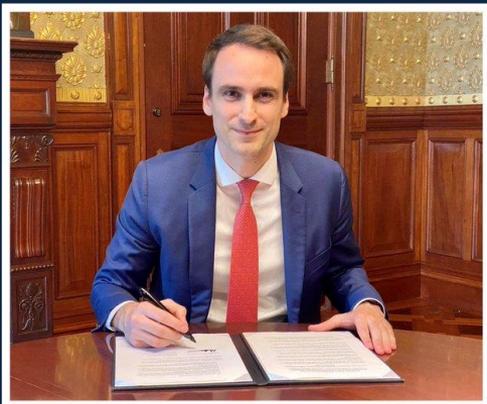
Algorithms: How they can reduce competition and harm consumers (CMA)





National AI Strategy

Seizing the benefits and opportunities of AI with our international partners



**US - UK
DECLARATION ON
COOPERATION IN
ARTIFICIAL
INTELLIGENCE
RESEARCH AND
DEVELOPMENT**



MICHAEL KRATSIOS
CHIEF TECHNOLOGY OFFICER OF THE UNITED STATES

SEPTEMBER 25, 2020

Office for Artificial Intelligence Retweeted



GPAI
@GPAI_PMIA

Join us in thanking [#Canada](#) for its leadership and foundational role as GPAI's first Council Chair. Looking forward to continuity of support as Outgoing Chair Minister François-Phillippe Champagne. ([@FP_Champagne](#))



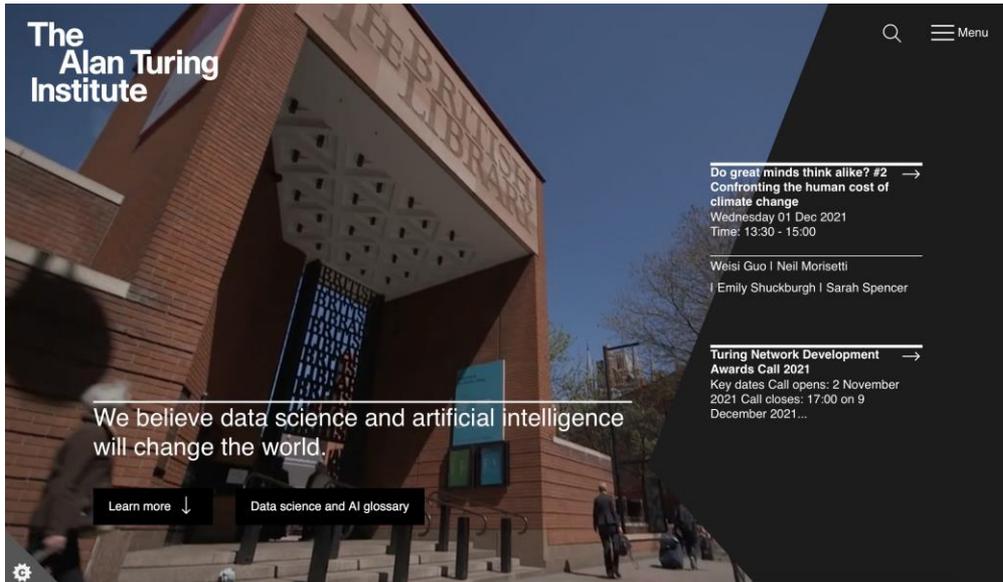
6:42 PM · Nov 16, 2021 · Twitter Web App



Research and Innovation

UKRI AI Strategy

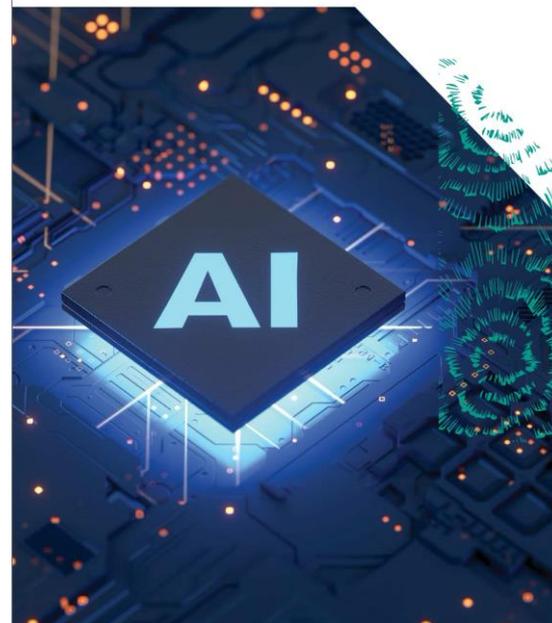
National Institute for Data Science and AI



UK Research and Innovation

Transforming our world with AI

UKRI's role in embracing the opportunity





AI Centres for Doctoral Training



- **The UKRI Artificial Intelligence Centres for Doctoral Training (CDTs) are training up to 1000 PhD students** who will develop and use AI technology in areas such as improving healthcare, tackling climate change and creating new commercial opportunities.
- The PhD students are being trained at 16 centres based at 14 universities with over 300 partners, including AstraZeneca, Google, Rolls-Royce, and the NHS.
- These UKRI AI CDTs are funded by £100m from UK Government along with additional leveraged funding to bring the total investment to over £200m.



The Turing AI Fellowships

Fellowships - supported by £46m in research funding - to attract and retain exceptional researchers in AI



Phase 1

The first 5 Turing AI Fellowships awarded during the pilot phase of the investment signalled the UK's ambition to maintain and grow its global leadership in the development of AI methodologies and enhance our research power in the field.



Phase 2

The Turing AI Acceleration Fellowships were awarded with the aim of accelerating the careers of 15 of the highest potential AI researchers towards a world-leading position by the end of the five year award.



Phase 3

The prestigious Turing AI World-Leading Researcher Fellowships have been awarded to 5 exceptional AI researchers to enable the building of centres of excellence in key areas.



Turing AI World-Leading Research Fellows



**Professor
Zoubin
Ghahramani**

University of
Cambridge



**Professor
Samuel
Kaski**

The University
of Manchester



**Professor
Mirella
Lapata**

University of
Edinburgh



**Professor
Philip
Torr**

University of
Oxford



**Professor
Michael
Wooldridge**

University of
Oxford



Where can I learn more about AI?



"I have an undergraduate degree but want to become an AI specialist?"

There are lots of options:

Masters in AI

Universities across the country offer Masters degrees in AI. For those with a computer science undergraduate degree the Industrial Funded AI Masters programme looks to provide students with a course that is funded from an industry partner.

AI and Data Science Conversion Courses

Studied an undergraduate course in a discipline unrelated to AI?

Try a course from one of 28 universities that host them. Scholarships are available for underrepresented students too.



"I already have a masters degree.... what next?"

Here's what you could do:

PhDs

Why not continue further education? There are various PhD opportunities across the country with funding available to support individual needs.

UKRI Centres for Doctoral Training

Students are funded for four years and doctoral programmes include technical and transferable skills training, as well as a research element.



"I want to work and learn about AI at the same time... where do I go?"

You could explore this:

The Skills Toolkit

This is a collection of courses to help individuals learn new skills or to change jobs. These courses are free and cover a range of concepts from Computer Essentials to more advanced learning such as Computer Science and Coding. Courses are hosted by a range of providers including Microsoft, Amazon and Google.

Bootcamps

Skills Bootcamps offer free, flexible courses (up to 16 weeks) for adults aged 19 or over and who are either in work or recently unemployed. They give people the opportunity to build up sector-specific skills and a fast-track to an interview with a local employer.

Apprenticeships

Want to start working and learning whilst you complete a degree level qualification? Take a look at an AI or Digital apprenticeship.

There are also private providers who offer training to employers.



"I'm a parent/teacher and want to support children to learn more?"

Have you considered these resources:

National Centre for Computing Education

Offers courses for computer science teachers; bursaries for training; free curriculum teaching resources; and community support.

STEM Learning

The STEM learning Centre has developed a suite of resources aimed at individuals who seek to teach AI.

There are also lots of fun and free courses for kids available online. Some are hosted by universities, others by companies.

Barefoot

Barefoot courses are aimed at children from 5-11 yrs of age. Courses are designed to be both informative and engaging for younger audiences.

There are also lots of fun and free courses for kids available online. Some are hosted by universities, others by companies.



"I'm just interested!"

Take a look at:

Future Learn

Future Learn possess a wealth of accredited courses that are aimed at developing new skills. Courses include AI & Robotics, Programming and Java.

There is a huge amount of information and free courses available on AI online - from teaching yourself technical coding skills to understanding how AI will develop and impact us in coming years. Take a look to satiate your curiosity in AI and engage in debate!



New AI Scholarships and Turing AI Fellows



RISHI SUNAK

Chancellor of the Exchequer,
United Kingdom

“We will create 2000 elite AI Scholarships for disadvantaged young people and double the number of Turing AI World-Leading Research Fellows. Helping to ensure that the most exciting industries and opportunities are open to all parts of our society.”



AI and data science conversion courses

Up to 2,500 places for AI and data science conversion courses.

This includes up to **1,000 government-funded scholarships:**

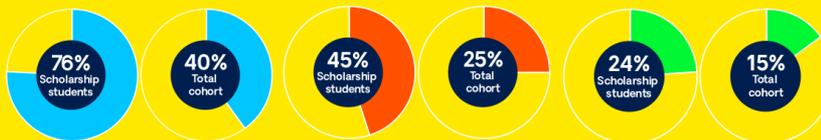
- 76% have been awarded to women students.
- 45% to black students
- 24% to disabled students

Chemists wanted



Game changers enrolled

Postgraduate Conversion course students enrolled Autumn 2020



Women students

Black students

Disabled students

Office for Students



HM Government

#JoinYourAIFuture

Join the next generation of AI and data scientists



Diversity issues are all worse for AI

If there is a lack of diversity, data and algorithmic bias will lead to unforeseen and potentially dangerous consequences

Are interdisciplinary teams the answer?

Incorporate diversity at every stage of the AI process

If it isn't diverse, it isn't ethical

