CATAPULT Digital | Machine Intelligence Garage

INTELLIGENT

Removing barriers from AI startups

Machine Intelligence Garage

@Pete_Bloomfield

Driving the UK Economy through digital innovation

Our Centres

- London
- Brighton
- North East and Tees Valley
- Northern Ireland

The Technologies

Artificial Intelligence
AI & Machine Learning

Future Networks
5G & Low Powered Wide Area Networks

Immersive
VR/AR/MR & Haptics

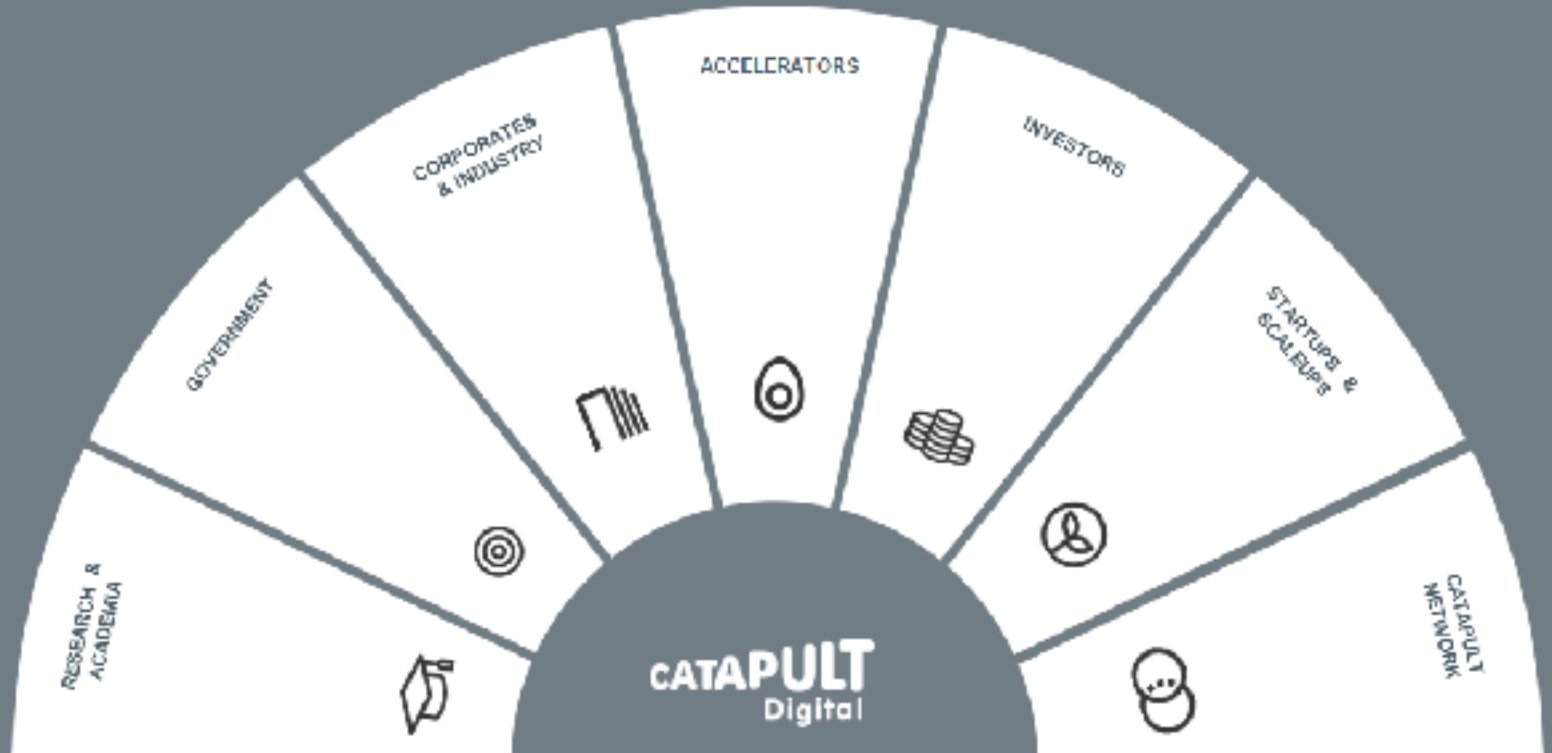
The Challenges

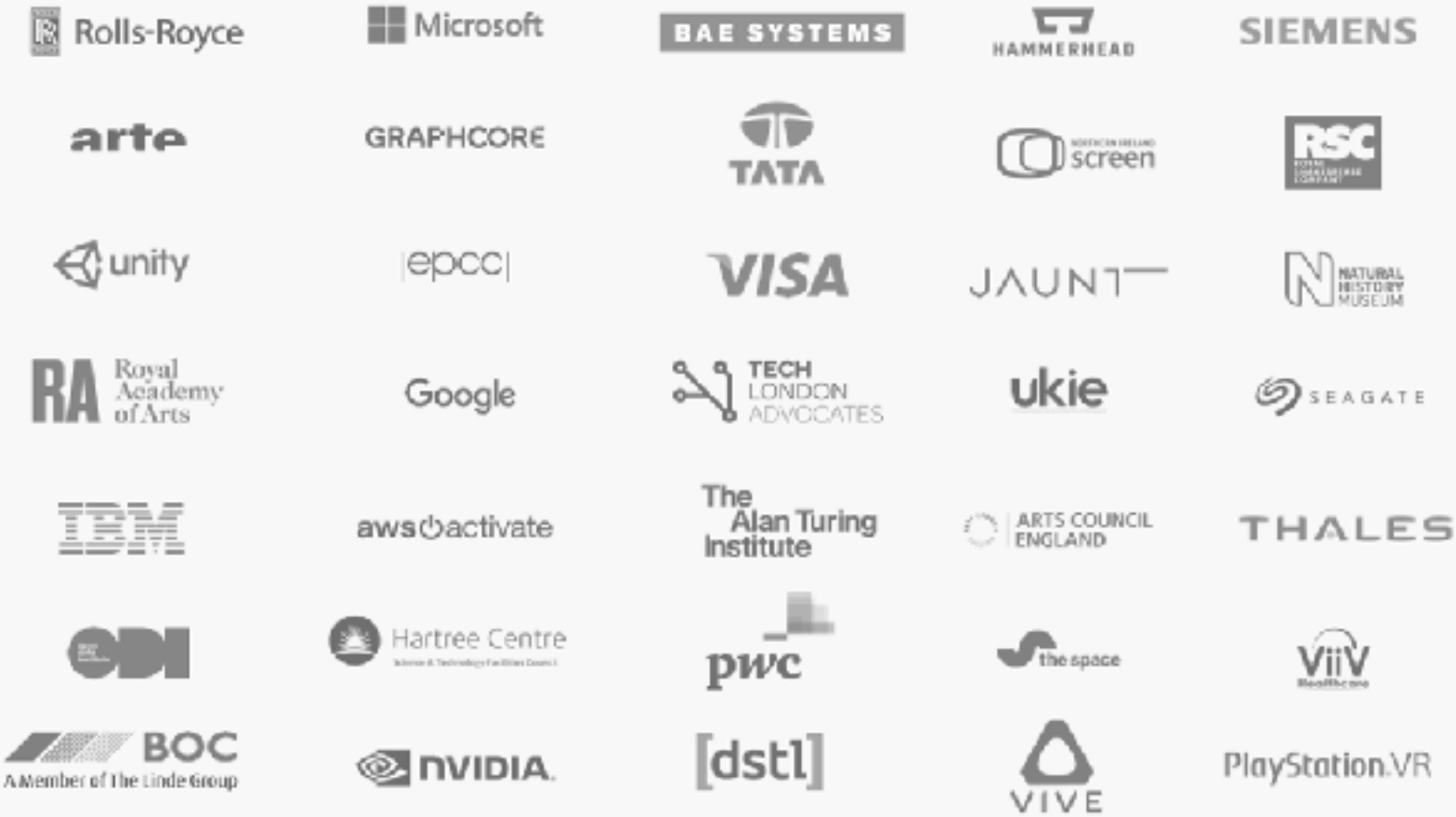
Lack of access to facilities
cost, location barriers, access leading edge equipment

Fragmented landscape
cultural divide between digital and traditional sectors

A knowledge gap
opportunities, challenges and benefits

Applied into high impact industries – advanced digital technologies will only reach their full potential when applied into industry. Digital Catapult will focus on two industry sectors:


ACCELERATORS
INVESTORS
STARTUPS & SCALEUPS
CATAPULT NETWORK
RESEARCH & ACADEMIA
GOVERNMENT
CORPORATES & INDUSTRY
CATAPULT Digital


Rolls-Royce
Microsoft
BAE SYSTEMS
HAMMERHEAD
SIEMENS
arte
GRAPHCORE
TATA
screen
RSC
unity
epcc
VISA
JAUNT
NATURAL HISTORY MUSEUM
RA Royal Academy of Arts
Google
TECH LONDON ADVOCATES
ukie
SEAGATE
IBM
aws activate
The Alan Turing Institute
ARTS COUNCIL ENGLAND
THALES
ODI
Hartree Centre
pwc
the space
ViiV Healthcare
BOC
A Member of The Linde Group
NVIDIA
[dstl]
VIVE
PlayStation.VR

WORLD LEADING AI RESEARCH

4 of Top 20
Global Universities for Computer Science based in UK

4th
Globally by number of publications in AI & ML (behind US, China & Japan)

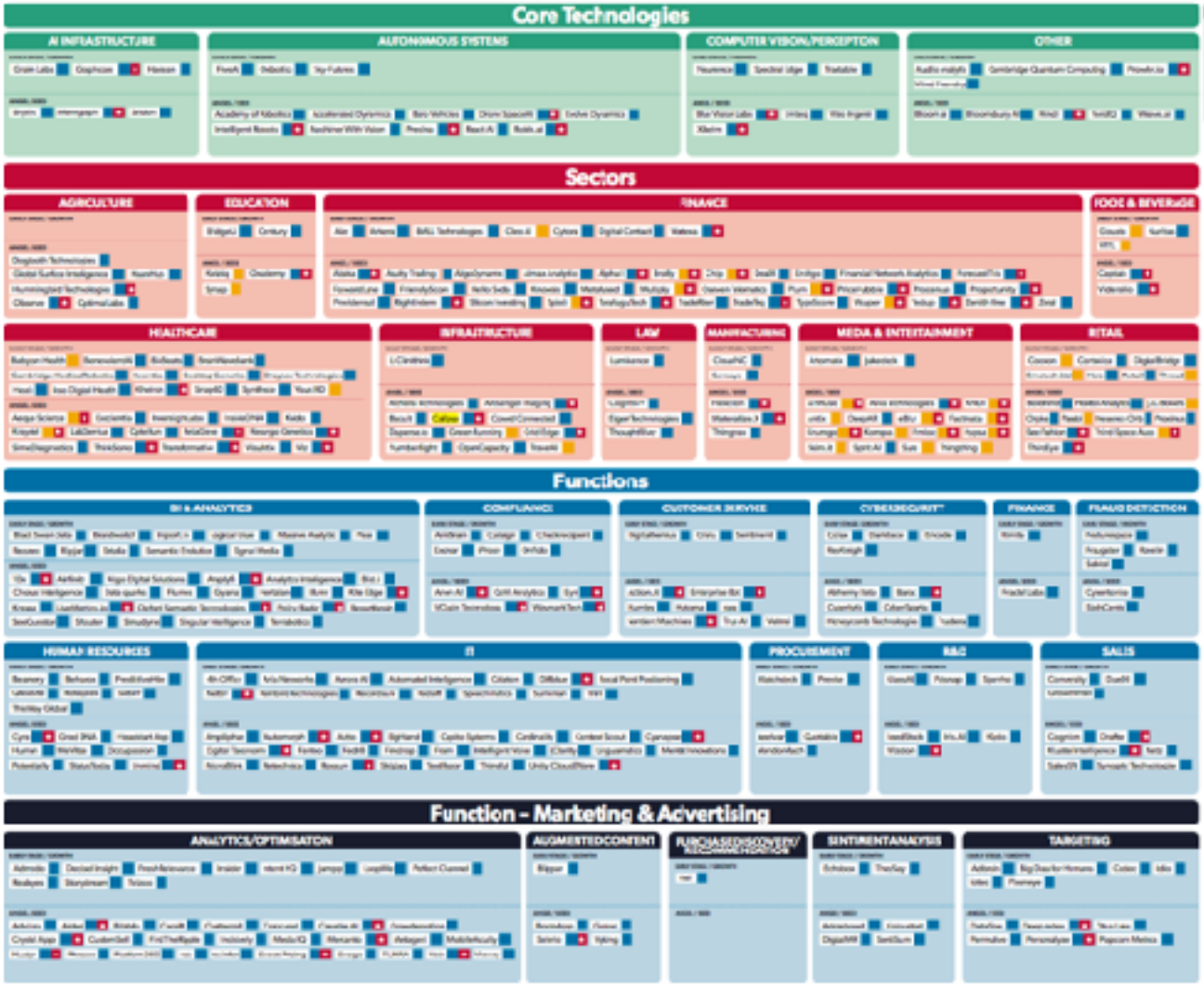
3rd
Globally by no. of citations in AI & ML (behind China & US)

2nd
Globally after US for Impact (as measured by H-index)

£69m
EPSRC funds in AI/ML projects to date

134
EPSRC grant funded projects

46
EPSRC funded institutions in AI & ML



UK AI+ML EARLY STAGE LANDSCAPE

https://www.mmcventures.com/wp-content/uploads/2017/10/The-State-of-AI-2017-Inflection-Point-Summary.pdf

HIGH PROFILE ACQUISITIONS

Google DeepMind — $500M 2014

Microsoft + SwiftKey — $250M 2016

+ MAGIC PONY TECHNOLOGY — $150M 2016

+ vocaliq The dialogue company — $50M 2016

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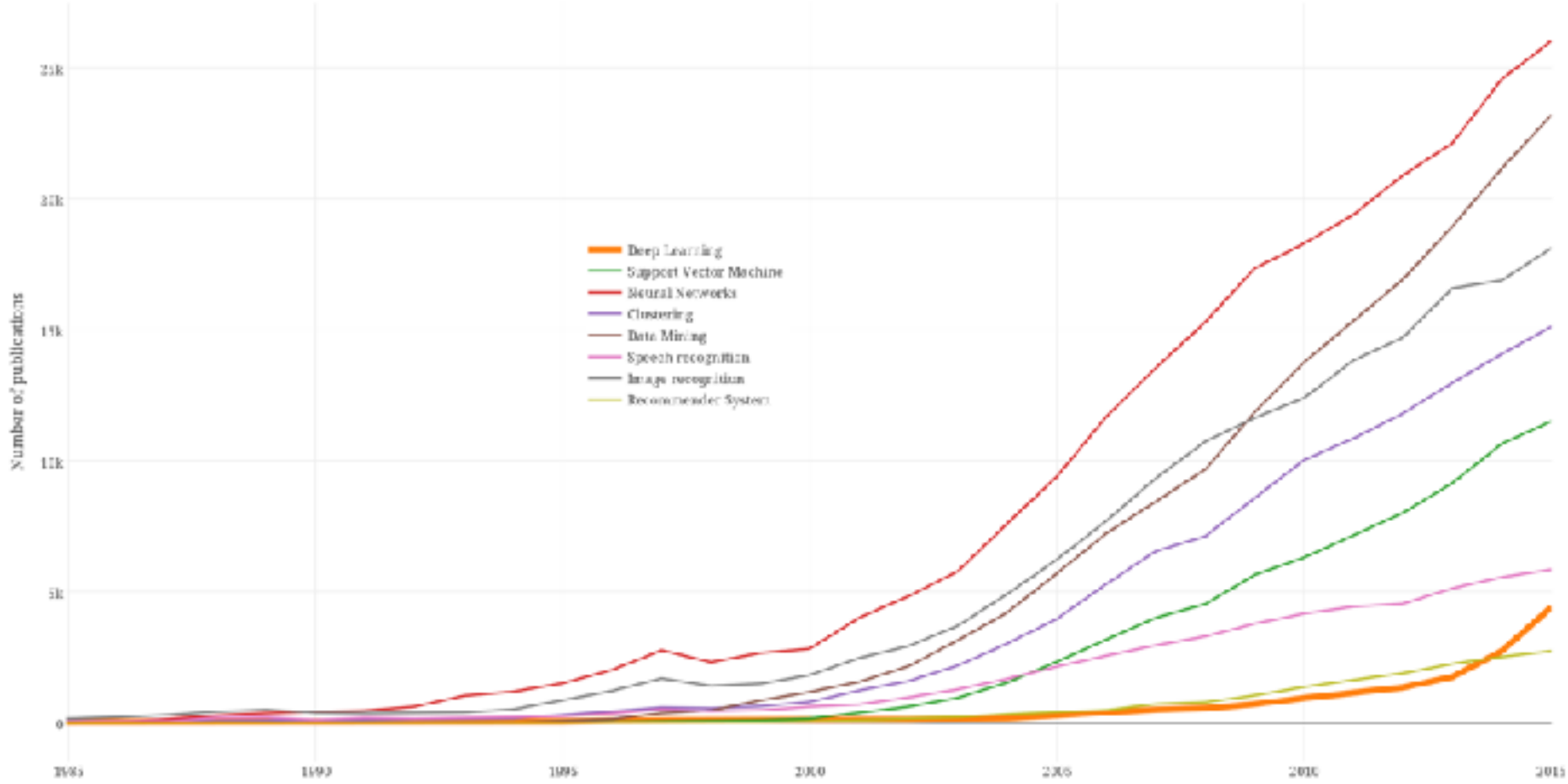
Elon Musk
@elonmusk

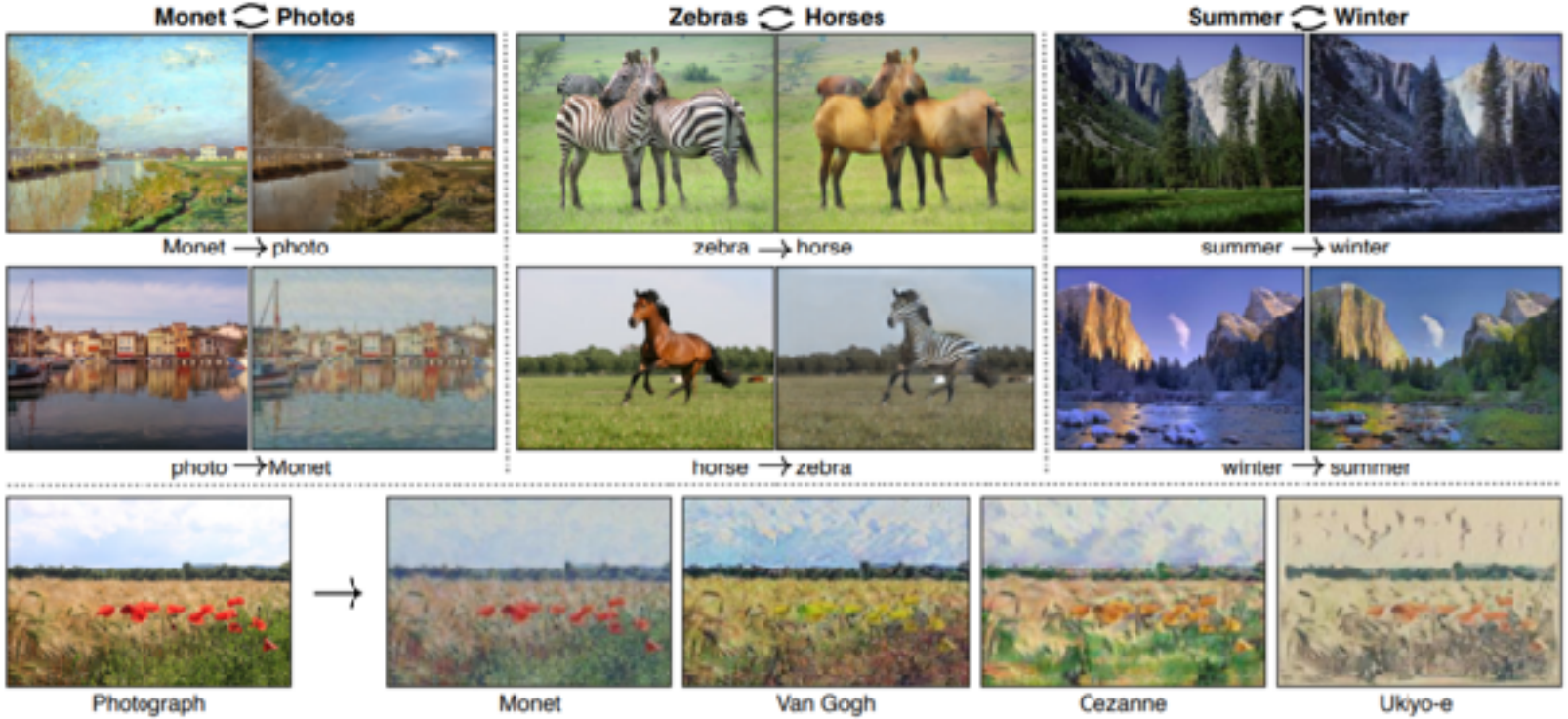
Following

If you're not concerned about AI safety, you



Unpaired Image-to-Image Translation using Cycle-Consistent Adversarial Networks

Jun-Yan Zhu* Taesung Park* Phillip Isola Alexei A. Efros
Berkeley AI Research (BAIR) laboratory, UC Berkeley



Applying computer vision

What AI is in reality for us

A tool to be integrated into digital products.

Ultimately, it's not just hype, but it's also not going to do everything

There are concerns, but we are in a position to make a difference

What's holding companies back?

Machine intelligence companies face specific barriers:

- Access to talent
- Access to training data: cost, quantity & privacy
- Access to computation: speed, cost & expertise
- Industry adoption
- Ethics

What are we doing to build the AI sector in the UK?

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Core components

Hosted hardware (NVidia DGX-1 and Graphcore IPUs)

Cloud computing vouchers

Access to existing UK HPC infrastructure

Demo and Experimentation Space with new ML chips

Partners


Google Cloud Platform
CATAPULT Digital
NVIDIA
Newcastle University
aws activate
European Union
epcc
SpiNNaker
GRAPHCORE
CAP a.i.
Hartree Centre
CRAY

R
C

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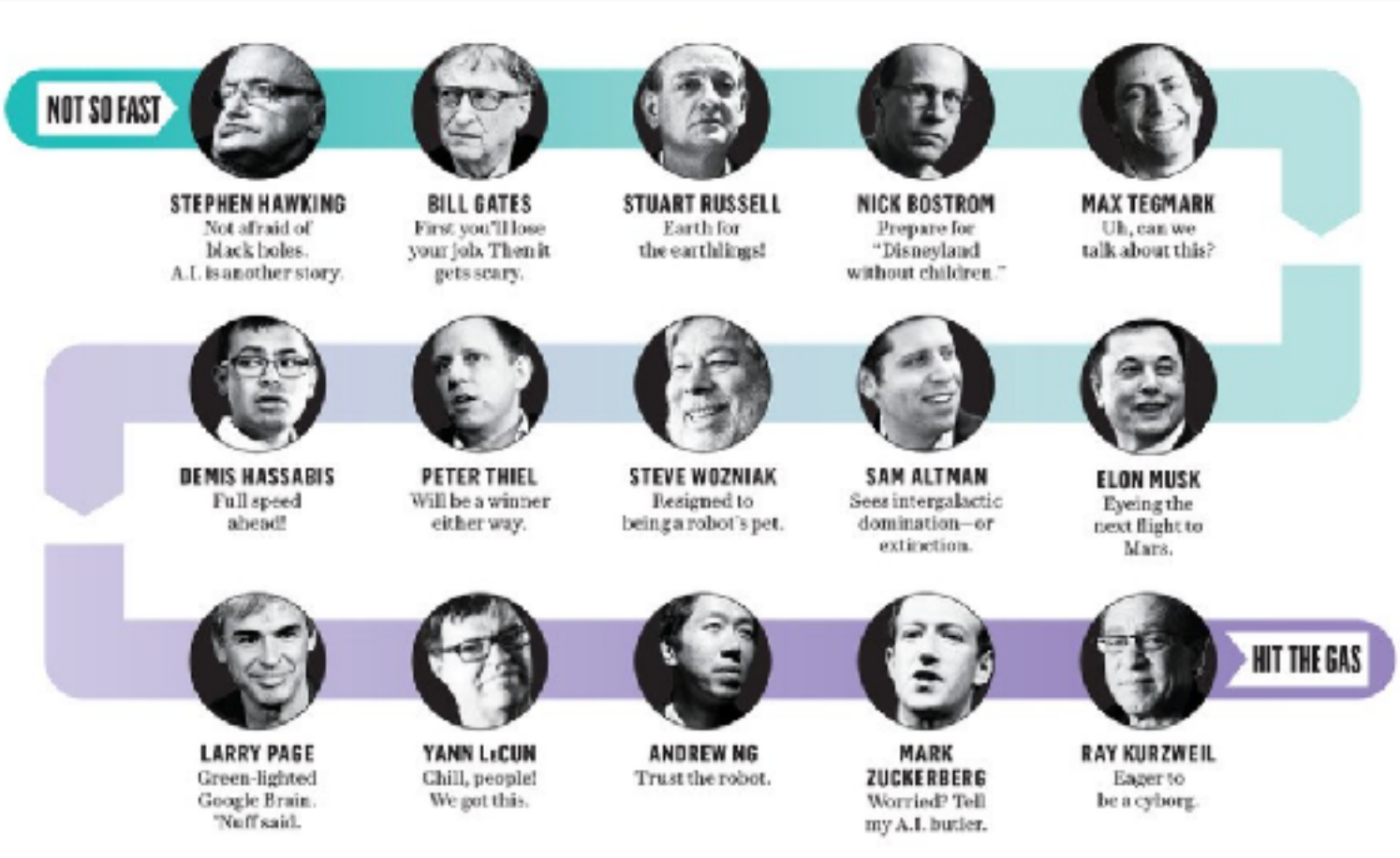

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MIGarage Ethics Committee:

- Prof. Luciano Floridi as chair
- ~60 applications for working group
- Interviews finalised May 18
    - 6 working group, 5 steering group

MIGarage Ethics Committee:

1. Artificial intelligence should be developed for the common good and benefit of humanity.
2. Artificial intelligence should operate on principles of intelligibility and fairness.
3. Artificial intelligence should not be used to diminish the data rights or privacy of individuals, families or communities.
4. All citizens should have the right to be educated to enable them to flourish mentally, emotionally and economically alongside artificial intelligence.
5. The autonomous power to hurt, destroy or deceive human beings should never be vested in artificial intelligence.

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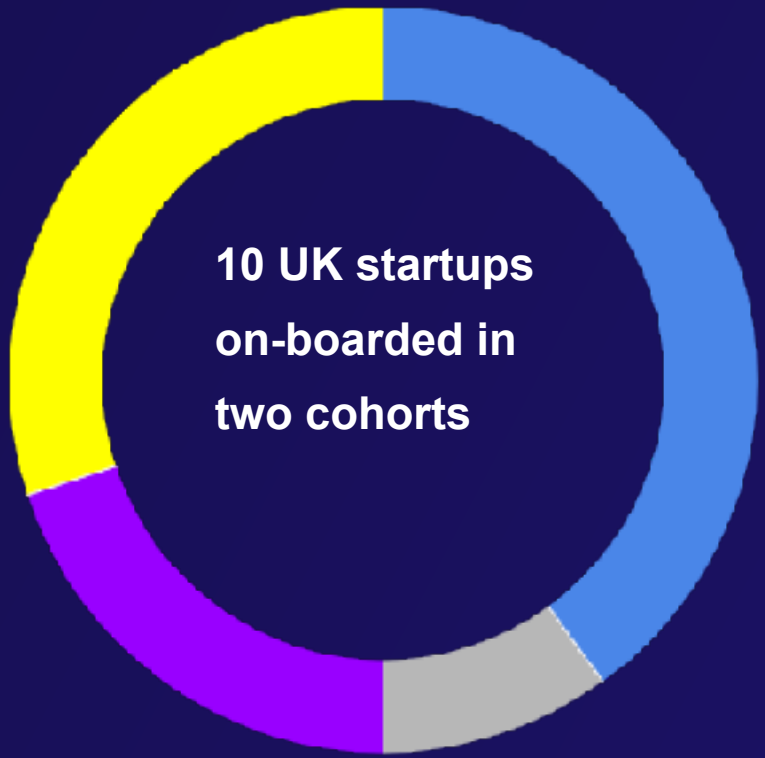
Impact



Cambridge Bio-Augmentation systems (CBAS)

Prosthetics using neural signal integration,
Including a “prosthetic interface device”
AI = Deep neural net for predicting behavioral data from neural activity

Cohort #1 - HPC (Hartree centre)

NVIDIA AI inception pitch day in March

They are hiring!

CBAS

Generative Tensorial Networks (GTN)

Drug discovery company, using DNNs for compound classification.

Cohort #1 - GCP voucher

£2.1 Mil funding + new hires

Currently recruiting

GTN LTD

octopus ventures

pentech VENTURES

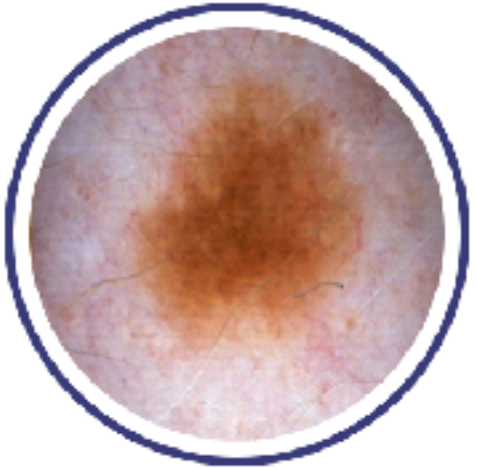
Our companies

4cv

Our flagship service for getting an instant diagnosis of your skin lesion

Vitality Skin Check

Get referred by your Vitality GP to get our Dermatologist-backed skin check



Change Detection

Our InstaAward-winning product monitor your moles for change

This call for applications is open!

https://www.migarage.ai/application-open-call/

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Thank you!

@Pete_Bloomfield