

BUILD YOUR OWN NEURAL NETWORK

WORKSHOP
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WHY AI? **WHY NOW?**

HISTORY OF AI

Artificial intelligence is the use of computers to simulate human intelligence. Originally coined in the 1950s, the concept has enjoyed surges of enthusiasm – followed by extended periods of disillusionment. Until recently, hand-coded AI algorithms took vast amounts of effort to create and maintain, often achieving modest success and taking longer than conventional approaches.

In the past several years, this has changed. A form of AI called deep learning has been turbo-charged by internet-age datasets and GPU computing power. Today, the artificial neural networks used in deep learning are delivering ‘unreasonably effective’ results.

This technology’s transformative power has been likened to electricity. AI won’t be an industry – it will be part of every industry.

SKILLS

The skills required to apply AI are highly transferable, meaning data scientists with AI expertise are in high demand across industries. Demand is already outstripping supply.

COMPUTING POWER

The graphics processing unit (GPU) has become the computing engine of the AI industry. The GPU-based JADE and Wilkes 2 systems are the UK’s national AI supercomputers.

DATA AVAILABILITY

Data is the fuel of AI, providing algorithms with the machine equivalent of experience. Balancing data availability with the need for individual privacy is a key concern.

WHERE ARE WE NOW?

For specific tasks such as computer vision and natural language processing, AI has surpassed human levels of accuracy. Stanford University’s Andrew Ng states that anything taking less than a second of human thought can already be automated.

Why should we care?

1. Economic potential
2. National competitiveness
3. Potential skills gap

What **YOU** can do

1. Engage with AI - understand what it can and can't do
2. Encourage your peers to do the same
3. Help your constituency understand how AI will impact them

HOW TO SUPPORT THE UK'S AI FUTURE

- Support investment in computing power
- Champion education to build AI skills
- Encourage wider public conversation

WORKSHOP NOTES

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