

All-Party Parliamentary Group on Artificial Intelligence

Evidence Meeting 2 - SKILLS

Monday, 26 February 2018 | 5:30-7:00 PM - Committee Room 2 (CR2), House of Lords



Beverly Clarke, Author of the Computer Science Teacher

Beverly Clarke, former secondary school teacher, author of the book *Computer Science Teacher*. I work with Computing At School (CAS) the subject association for Computing teachers, I cover the South West region. I am a CAS master teacher and a CAS Board member.

Additionally, I am a writer of education material for many clients ranging from BBC Bitesize, NVIDIA, British Computing Society- the chartered institute for IT, Times Education Supplement (TES) and others. I hold the National Professional qualification in Senior leadership and Chartered IT professional status.

But the key reason why I'm here is because I have developed the worlds first secondary school curriculum to teach modern AI to children.

The views which I will share are my own based upon classroom experience of teaching and also interacting with teachers.

Summary of evidence

Summary of key points from my presentation

1. That AI is important. Possibly the most important technological advance in our lifetime. How we as a nation approach AI will have implications for years to come.
2. That there are many forms of AI, but the technology that has shown the greatest promise of recent times is the Deep or Artificial Neural Network.
3. That to successfully make use of AI you need lots of carefully curated data. Having peta bytes of random data doesn't really help.
4. That even with a large and sufficiently organised dataset and access to a room of supercomputers to process it, you won't be going very far without the skills and understanding needed to make sense of it all.

With NVIDIA, Scan computers and Amazon Web Services I have launched the AI in Schools programme, to date we have created a self-contained resource, or scheme of work in teacher parlance, providing the lessons and resources to cover six weeks of teaching – aimed at secondary school year 9 – age 13/14 or just before GCSE.

During these six weeks Pupils will learn and understand

1. the umbrella term AI, terms such as Deep Learning, Machine Learning and neural networking.
2. how a neural network classifies images as this is one of the easiest applications of AI.
3. About Smart Cities and how leaders such as Milton Keynes are using AI to improve the lives of citizens
4. how AI is transforming industries such as transportation, healthcare, agriculture and others

5. pupils will also access NVIDIA GPUs in the cloud and build a working neural network. My goal is that **every child aged 13/14 will raise their hand when asked if they have ever built a functional AI algorithm.**

We can inspire a generation and at the same time lock in national competitiveness. We can have children building robots using the same techniques that industry is crying out for right now. We have something that is independent of the need for computer coding. We can bring relevance to anyone who can imagine how to build a dataset. We can give every school leaver something very useful to talk about in their first job interview.

I have taken the first step with the "AI in Schools programme". Please encourage teachers and schools to take this fantastic resource and run with it. It is free and able to be delivered by non-specialist teachers

More importantly please encourage those in the Government and the DfE specifically to immediately begin planning how to put relevant AI into the GCSE and A-level curriculums.