

## Will a robot take your job?

**Will a robot take your job? Will artificial intelligence serve us or does it have the potential to wipe humankind from the face of the earth? Mark Kelly, founder of AI Ireland talks 'machine learning' and the rise of the robots.**

Mark Kelly is the founder of AI Ireland, a not for profit organisation helping to build a machine learning tech cluster in Ireland. AI Ireland runs regular meetups, podcasts, and hackathons and on November 22, the inaugural [AI Awards](#) will be held in Dublin's Gibson hotel. Day-to-day he is an executive search consultant in Artificial Intelligence and Machine Learning.

### **For those who are a little unsure, what are machine learning and Artificial Intelligence (AI)?**

Machine Learning (ML) and AI are the same only that AI is the term most people use. I think machine learning can be summarised by answering the question 'Has the computer or algorithm seen it before?' and if it can find patterns in this observation.

If patterns are found, they then turn into data that train a model on which the algorithm can make decisions. If however, the algorithm hasn't seen a particular pattern in an image it can't be taught, because there is nothing to replicate.

### **What industries are employing AI today and how?**

Every industry you can imagine. Let's use financial services for example. Credit card companies can use deep learning techniques to prevent fraud detection and spot anomalies that people

wouldn't spot from billions of transactions.

Healthcare is another example where deep learning can be used for drug discovery and in some cases it can help bring a drug to market ten times faster than regular methods.

Logistics such as self-autonomous cars will be the one most people will know.

Conversational chatbots and the Netflix recommendation system are other examples people will be familiar with.

### **What is the rate of increase in AI/machine learning?**

There is a tremendous amount of hype around AI, even though the majority of algorithms have been around for 70 years.

The rate of increase of AI has been fast-tracked with IBM Watson beating the leaders of Jeopardy and Google's DeepMind Computer beating one of the world's leading GO Players. Countries such as China, Canada, and the UAE have put AI as one of their highest strategic objectives.

Even though we are at the height of the hype cycle around AI, in my opinion, the hype will be justified as there are so many new cases of incredible user experiences, early cancer detection, improved agricultural practices and in 15 years a world where self-driving cars will become the norm.

### **What are the current trends in AI across various sectors?**

- In financial services – fraud prevention and personalised loans that take into consideration the context of the applicant.
- Logistics – think about Uber and Deliveroo, algorithms run their systems.
- Healthcare – fast track drugs brought to market. Predicting illnesses before they occur.
- Agriculture – facial detection of animals to prevent severe disease, using machine learning for crop detection and ensuring that only the required amount of water goes into crops.
- Defence – Iris – a retinal scanner detection.
- Call centres – automated chatbots and messengers.

### **Where is AI going, where can we see glimpses of the future?**

A personalised experience for shoppers is a good example of where AI is going. AI allows companies to understand customer sentiment regarding their products. Taking into consideration all the tweets, blog messages, and emails happening in real time, companies can access this

information and provide targeted offers to their customers.

When a customer agent is taking a call from a frustrated customer, and they share their frustration via a tweet, the agent will be able to see this and allow them to have context before they do the call rather than ask the customer go through the situation once again.

Also, in personalised healthcare, taking into consideration your diet, genetics, past health history, doctors will be able to prescribe personalised, proactive care to decrease the chance of longtime illness occurring.

### **Will AI displace jobs and what opportunities for humans are emerging from the 'robotic future'?**

In the short term, yes. People are doing repetitive work and prone to mistakes, automation will result in fewer errors and more appropriate approaches. AI will automate these tasks enabling humans to do a more value-added activity.

I see AI and humans working together with AI doing the heavy lifting and humans making the crucial decisions. An excellent example of this is how radiologists work with AI to scan anagrams for cancer, and the clinician makes the final decision.

I don't see the robots taking all our jobs, but there are specific industries that a high number of jobs will be lost such as logistics and call centres. To give you an idea of the extent of impact across the world, at the end of 2017 about 70% of all use cases in AI were related to customer service and call centres.

The reality of AI means that hundreds of millions of people will need to learn new skills as companies deploy AI through the use of speech recognition software and Google's Dialoglow AI tool.

### **What excites you about AI?**

The opportunity for applying AI for good. AI can do incredible things to help people who live in unfortunate circumstances. I am very excited about the innovations in healthcare notably drug discovery and AI augmenting the experience with oncologists.

### **What worries you about the rise of the robots?**

Defence departments have the capability of using AI to make the final decisions on whom to harm.

If they enable AI to make the decisions, we could be in big trouble.

AI doesn't learn as we do, it learns exponentially, as it becomes smarter than humans in general tasks, it may decide it no longer needs us.

Let me give you an example, let's say you are building a shed, you would not intentionally plant the shed on an ant's nest, but if you have no other room, you won't give it a second thought. The opaque nature of deep learning models means that the decisions they come up with are not easily explained. This is a significant issue if your data is gathered and has bias within it. It will result in some people not getting loans due to their background and family history. Added to this, it scales, so the small overdraft loan you are rejected on now becomes an issue when purchasing a house. GDPR in Europe means banks have to make responsible decisions but other countries don't have these constraints.