INSTITUTO TÉCNICO GUAIMARAL

Educación Con Calidad Para Todos

ROBOTS: FRIEND OR FOE?

What is the future of artificial intelligence (AI)? Will robots become as intelligent as humans? Or more intelligent?

1. **Match the vocabulary with the correct definition**

a robot	**an algorithm**	**artificial intelligence (AI)**	**a drone**	**a foe**	**autonomous**

an enemy _____

a computer-controlled machine which can perform jobs without human input. It may have a human-like body _____

mathematical instructions which help a computer calculate an answer to a problem _____

the field of science concerned with producing machines with qualities of the human mind, e.g. the ability to understand language _____

independent, with the power to make your own decisions _____

autonomous f. an aircraft without a pilot which is controlled by a human on the ground _____

READING

What is the future of artificial intelligence (AI)? Will it be possible for robots to be autonomous? If so, when will that happen and will it be a good thing? We asked four experts what they think.

A

I would say that we are quite a long way off developing the computing power or the algorithms for fully **autonomous** AI, though I do think it will happen within the next thirty or forty years. We will probably remain in control of **technology** and it will help us solve many of the world's problems. However, no one really knows what will happen if machines become more intelligent than humans. They may help us, ignore us or **destroy** us. I tend to believe AI will have a positive **influence** on our future lives, but whether that is true will be partly up to us.

B

I have to admit that the potential consequences of creating something that can match or **surpass** human intelligence **frighten** me. Even now, scientists are teaching computers how to learn on their own. At some point in the near future, their **intelligence** may well take off and develop at an ever-increasing speed. Human beings evolve biologically very slowly and we would be quickly superseded. In the short term, there is the danger that robots will take over millions of human jobs, creating a large underclass of unemployed people. This could mean large-scale **poverty** and social unrest. In the long term, machines might decide the world would be better without humans.

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C

Personally, I think it's fascinating to consider how we'll speed up our **evolution** as a species by augmenting our bodies. Imagine if you could implant a computer inside our **brain**! Soon we'll be able to do just that and enhance our mathematical ability, audiovisual perception and our memory, and this idea is only going to become more and more commonplace. AI is also popping up in the world around us. Recent developments include self-driving cars and **drones** carrying life-saving equipment to people at sea. Granted, there have been a few teething problems: one woman who was asleep on the floor had her hair eaten by her robot vacuum cleaner and there have been fatal accidents with self-driving cars. But progress always comes at a cost, and for me the advantages far **outweigh** the disadvantages.

I'm a member of the Campaign to Stop Killer Robots. Forget the movie image of a terrifying Terminator stamping on human skulls and think of what's happening right now: military **machines** like drones, gun turrets and sentry **robots** are already being used to kill with very little human input. The next step will be autonomous 'murderbots', following orders but ultimately deciding who to kill on their own. It seems clear to me that this would be completely **unethical** and dangerous for humanity. We need to be very **cautious** indeed about what we ask machines to do.

D

2. Find the bold words in the word search

A	U	T	O	N	O	M	O	U	S	S	G	R	K
V	T	C	L	T	O	U	T	W	E	I	G	H	W
N	M	A	C	H	I	N	E	S	N	G	I	C	N
F	D	R	O	N	E	S	D	E	S	T	R	O	Y
C	V	G	W	T	E	C	H	N	O	L	O	G	Y
A	L	Q	S	U	R	P	A	S	S	L	W	O	J
U	L	I	N	T	E	L	L	I	G	E	N	C	E
T	Z	B	D	L	H	R	O	B	O	T	S	L	G
I	N	F	L	U	E	N	C	E	H	V	H	E	O
O	N	O	E	V	O	L	U	T	I	O	N	I	Y
U	O	B	H	U	N	E	T	H	I	C	A	L	Q
S	Y	C	C	P	O	V	E	R	T	Y	U	J	S
O	C	J	Q	F	R	I	G	H	T	E	N	K	A
J	H	R	L	B	G	B	R	A	I	N	O	I	Z

3. Read the questions and choose the correct expert (A–D). Each expert may be chosen more than once.

	A	B	C	D
Which expert has a different view from the others regarding the timescale of AI becoming more autonomous?				
Which expert has a similar view to A about the responsibility humans have for the future of AI?				
Which expert agrees with B that the negative aspects of AI far outweigh the positive aspects?				

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Which expert seems to disagree with B about how fast humans can change?				
Which expert gives their opinion about what will happen with the same level of certainty as D?				

4. Complete the verbs with the correct definition

to go beyond

to s _ _ p _ _ _

to start doing something someone else was doing

to _ u _ _ r _ _ d _

to replace something older or less advanced

to _ _ _ e o _ _ _ (from someone)

to suddenly start to be successful to

t _ _ _ _ _ _ _

to develop gradually (especially for a biological species)

to e _ _ _ _ _ _

to grow or improve, or to make something grow or improve

to _ e _ _ _ _ _ _

Super-recognisers

5. Match the vocabulary with the correct definition

to convict someone a.	a defendant	a pickpocket	to plead guilty	a shoplifter
a rioter	footage	to be charged (with a crime)	a perpetrator	CCTV

(closed-circuit television) the use of video cameras in public places for security purposes	
recorded film or video	
someone who steals things from a shop	
someone who steals from a person, e.g. from their bag, without their knowledge	
someone who does something illegal	
(in a court of law) a person accused of doing something illegal	
to be officially accused by the police of doing something illegal	
to prove that someone is guilty in a court of law	
to admit in a court of law that you have committed the crime you are accused of	
someone who is part of a violent, uncontrolled crowd	

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6. **Choose the best heading for each paragraph**

Making CCTV useful	**Disturbances across the UK**	**The right man for the job**	**Big Brother is watching you**
From identification to conviction	**recently discovered phenomenon**	**Are you a super-recogniser?**	**The limitations of CCTV**

1 Hundreds of angry people took to the streets in London and at least ten other English cities in 2011. Petrol bombs were thrown, buildings and vehicles destroyed and shops looted. Many of the rioters were caught on CCTV cameras, but most of the images were poor and the perpetrators had covered their faces.

2 Gary Collins, an off-duty policeman, was watching the London riots on TV. He immediately recognised several people and cut his holiday short to help with identification. He ended up spending six months going through the CCTV film and managed to identify 190 people, many from their eyes alone. His help was of decisive importance in the investigation. Even with 200,000 hours of footage, facial recognition software managed to identify just one person.

3 Collins is no ordinary police officer. Soon after joining the police force, he realised he had a special gift: after seeing a face briefly, he could remember it in detail years later. He is what is known as a super-recogniser. This term was first used in 2009 when a study estimated that 1–2 per cent of the population have severe problems recognising faces – called prosopagnosia or 'face-blindness' – and another 1–2 per cent are exceptionally good at it. They can recall up to 95 per cent of faces they see, whereas an average person remembers about 20 per cent.

4 London's Metropolitan Police set up a unit of super-recognisers in 2015 after Collins' success proved it could be useful. It is the first of its kind in the world. Detective Chief Inspector Mick Neville of Scotland Yard, one of its founders, had realised that there was a problem with CCTV back in 2008. CCTV film was not used efficiently in the courts and did not seem to work as an effective deterrent. If criminals were captured on film, they knew they were unlikely to be recognised.

5 Neville's unit has changed all that. Since it started, the tiny team of six officers has made nearly a quarter of all identifications in London, mainly by spending hours scanning film and photos. This is impressive, considering that there are 32,000 police officers in the city. The team's success relies on the ubiquity of CCTV; there are thought to be more than four million cameras throughout Britain.

6 This winning combination of human skill and technology has helped convict criminals from shoplifters and pickpockets to sex offenders and murderers. Offenders are very seldom convicted solely on the evidence of a super-recogniser, but it is used to direct investigations. Many defendants plead guilty when they realise they have been caught red-handed.

7 Super-recognisers could be useful in many jobs such as security and passport control. Find out about your powers of recognition with the University of Greenwich test: http://superrecognisers.com/

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Not used

7. Choose the best answer to these questions.

1. What newsworthy event took place in 2011?

a. There were lots of violent political protests.

b. There were riots on the streets of London.

c. A lot of people tried to steal things from shops.

d. There was a wave of public disorder across England.

2. When Gary Collins saw the riots on TV, he …

a. realised he should become a police officer.

b. changed his holiday plans.

c. stopped his job for six months.

d. came out of retirement.

3. How did Gary Collins manage to identify so many rioters?

a. He recognised people he knew personally on TV.

b. He spent many hours looking at images on CCTV film.

c. He has an exceptional memory for faces.

d. He had undergone special visual memory training.

4. Which of the statements about the population is not true?

a. About 2 per cent can remember faces seen briefly for years.

b. About 96 per cent have an average memory for faces.

c. About 2 per cent can't recognise people's faces at all.

d. About 2 per cent have a near perfect memory for faces.

5. Mick Neville thought there was a problem with CCTV because …

a. there weren't enough cameras on the streets.

b. it was hard to identify criminals from the film.

c. the film quality wasn't good enough.

d. the police didn't have time to watch all the footage.

6. The super-recognisers unit is impressive because …

a. it is unique to the world.

b. six officers have made as many identifications as around 10,000 of their colleagues.

c. the team have identified a lot of murders who were then convicted.

d. the team is incredibly hard-working.

7. Identification by super-recognisers is used to …

a. help the police conduct investigations effectively.

b. convict all kinds of criminals.

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c. prove guilt when there is little other evidence.

d. deter crime of all kinds.

8. In paragraph 6, 'caught red-handed' means ...

a. caught with blood on your hands.

b. caught with red dye on your hands (from security devices).

c. caught in the act of committing an offence.

d. caught in a very embarrassing situation.

8. Complete the sentences with a preposition from the box.

About	**- as**	**- at**	**- by**	**- from**	
of (x2)	**- on (x3)**	**- throughout**	**- to**	**- with**	

1. Many rioters were caught _____ CCTV.

2. Collins is what is known _____ a super-recogniser.

3. 1-2 per cent _____ the population are exceptionally good _____ recognising faces.

4. The unit is the first _____ its kind.

5. The team has identified many criminals _____ spending hours scanning film and photos.

6. The team's success relies _____ the ubiquity of CCTV.

7. There are thought to be more than four million cameras _____ Britain.

8. The winning combination of human skill and technology has helped convict criminals _____ shoplifters _____ murderers.

9. Offenders are seldom convicted solely _____ the evidence of a super-recogniser.

10. Find out _____ your own powers of recognition _____ the University of Greenwich test.

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