

Starting up

- Which areas do you think will most benefit from AI?
 - a) medicine
 - b) translation
 - c) driverless vehicles
- Why?
- Read through the whole article. Then do the exercise below.

Reading 1

Find the order in which these uses of AI are mentioned for the first time in the article.

- a) identifying people's faces
- b) making new pharmaceuticals
- c) faking speeches
- d) steering vehicles
- e) winning games against humans
- f) finding new objects in space
- g) identifying illnesses in people
- h) interpreting conversations between languages
- i) using AI as a form of social control

Science: AI breakthroughs in the 2020s

This should be the decade when artificial intelligence finally delivers. If so, its impact will be felt in every field of science and technology as it supercharges the ability of computers to process data and deduce patterns beyond human cognition. In the process, AI will transform many aspects of life, directly and indirectly, for better and for worse. Although historians of technology point to past cycles of enthusiasm and disillusionment for AI going back to the mid-20th century, machine intelligence has only recently started to demonstrate its true potential for disruption.

“Deep learning” programs tell computers to teach themselves to draw conclusions from vast volumes of unstructured or unlabelled information. Well-publicised examples include beating human champions in a wide range of games, guiding self-driving cars and translating between languages. Behind the scenes, AI is beginning to help to discover new drugs, to diagnose disease from medical scans and to help astronomers find distant planets.

Some say that AI is currently overhyped and set for another downturn. Yes, there is hype, but the technology is advancing too fast and on too broad a front for the old cyclical pattern to repeat itself. For instance, within 10 years we can expect to see accurate, reliable translators for travellers and companion robots that can conduct reasonably fluent conversations with people. Excellent facial recognition software will be a blessing if you want to identify a figure in an old family photo — but not if a totalitarian regime stops you going where you want when your socially undesirable face appears on a video feed.

Society will need to be on its guard against one unmitigated downside of AI: the ability to manipulate voice and video to show people saying and doing things they never did. These “deepfakes” are already plausible and by 2030 will be impossible to distinguish from the real thing without forensic electronics. This would threaten not only politicians and the democratic process but also businesses and private individuals. It will be hard to educate people not to take what they see and hear in the media at face value, without destroying social trust at the same time.

As AI develops, computer scientists also face a growing “black box problem” — their inability to understand how the system works and reaches its conclusions. This leads on to one of the least predictable aspects of AI. When, if ever, will the technology move on from today’s increasingly capable but essentially specialised systems — which have learnt to carry out a defined task such as diagnosing cancer or identifying faces — and create “artificial general intelligence” as flexible and adaptable as the human brain? Few experts expect AGI as soon as 2030, but well before then society should begin preparing for its arrival, just in case.



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Vocabulary – synonyms

Look at the whole article. Replace the words and expressions with the correct alternative that has the closest meaning. (The item must also fit grammatically into the surrounding context, which does not change.)

- 1 This should be the decade when artificial intelligence finally delivers. If so, its *impact* will be felt in every field of science and technology
a) affect b) affectation c) effect
- 2 as it supercharges the ability of computers to process data and *deduce* patterns beyond human cognition.
a) find b) found c) founder
- 3 Although historians of technology point to past cycles of enthusiasm and *disillusionment* for AI going back to the mid-20th century,
a) disappearance b) disappointment c) disorientation
- 4 machine intelligence has only recently started to demonstrate its true *potential for disruption*.
a) ability to change fundamentally the way things are done
b) ability to interrupt things before they continue
c) ability to destroy progress already made
- 5 Some say that AI is currently overhyped and set for another downturn. Yes, there is *hype*
a) publicity b) exaggeration c) media
- 6 Excellent facial recognition software will be *a blessing* if you want to identify a figure in an old family photo —
a) advantage b) beneficial c) damaging
- 7 but not if a *totalitarian regime* stops you going where you want when your socially undesirable face appears on a video feed.
a) soldiers' state b) military state c) police state
- 8 Society will need to be on its guard against one *unmitigated* downside of AI: the ability to manipulate voice and video to show people saying and doing things they never did.
a) partly questionable b) completely bad c) partly good
- 9 These “deepfakes” are already *plausible* and by 2030 will be impossible to distinguish from the real thing without forensic electronics.
a) credible b) unbelievable c) incomprehensible

- 10 As AI develops, computer scientists also face a growing “black box problem” — their inability to understand how the system works and *reaches* its conclusions.
a) goes to b) comes to c) arrives to
- 11 This leads on to one of the least *predictable* aspects of AI.
a) foreseeable b) forecasting c) pre-visible
- 12 When will the technology move on from today’s increasingly capable but essentially specialised systems — which have learnt to carry out a *defined* task such as diagnosing cancer or identifying faces
a) special b) particulate c) specific

Grammar – articles

Complete the sentences with *a*, *an*, or *the*, or put ' — ' if there should be no article.

- 1 This should be the decade when — artificial intelligence finally delivers.
- 2 — AI will now really start to transform all parts of daily life, even if until now there has been — disappointment in — whole area of — machine learning.
- 3 — intelligence of machines is of — very particular kind.
- 4 Computers capable of — 'deep learning' are — alarming development, especially when applied to — face recognition.
- 5 — automatic translation between all — languages of India would be of great assistance to — Indian economy.
- 6 — astronomer who works with AI has — advantage over — colleagues using other methods.
- 7 — sometimes incredible hype surrounding — AI has been overdone in — past, but it will definitely be important in — future.
- 8 — 'deepfakes' will be — increasingly serious problem; — specific social media issues that started with Brexit and US elections will seem quite straightforward in — comparison.
- 9 — education of — public in relation to deepfakes will be — essential part of — democratic process.
- 10 — deepfake introduced by an outsider into a business negotiation could be fatal to — relationship between — firms involved.
- 11 — 'black box problem' will be — issue in — advanced general intelligence.
- 12 — human brain may not understand how — future AGI systems function – people talk about — danger that computers will destroy — mankind, but, again, this may just be — hype.

Reading 2

Imagine that each paragraph of the article has one of the headings (a-g) below.

Put them in the correct order. (Two of the headings are not used.)

- a) The risks in hidden processing
- b) The hype becomes reality
- c) Negative applications of AI
- d) AI applied to e-commerce
- e) Computers teach themselves
- f) AI as a university research subject
- g) AI is about to transform things

Further discussion / Group work

- 1 What is the potential/danger of these professions being replaced by AI? Rank them in the order of probability that this might happen, giving your reasons.
 - a) language teacher
 - b) lawyer
 - c) truck driver
 - d) nurse
 - e) doctor
 - f) gardener
 - g) architect
 - h) car assembly worker
 - i) psychotherapist
- 2 'When, if ever, will the technology move on from today's increasingly capable but essentially specialised systems and create "artificial general intelligence" as flexible and adaptable as the human brain?' Make your own predictions about this, giving reasons.
- 3 Is there a danger that robots will apply AI to make other robots, that then take over the world? Again, make predictions giving your reasoning.

ANSWER KEY**Reading 1**

e d h b g f a i c

Vocabulary

1c 2a 3b 4a 5b 6b 7c 8b 9a 10b 11a 12c

Grammar

- 2 — AI will now really start to transform all parts of daily life, even if until now there has been — disappointment in the whole area of — machine learning.
- 3 The intelligence of machines is of a very particular kind.
- 4 Computers capable of — 'deep learning' are an alarming development, especially when applied to — face recognition.
- 5 — Automatic translation between all the languages of India would be of great assistance to the Indian economy.
- 6 An astronomer who works with AI has an advantage over — colleagues using other methods.
- 7 The sometimes incredible hype surrounding — AI has been overdone in the past, but it will definitely be important in the future.
- 8 — 'Deepfakes' will be an increasingly serious problem; the specific social media issues that started with Brexit and US elections will seem quite straightforward in — comparison.
- 9 The education of the public in relation to deepfakes will be an essential part of the democratic process.
- 10 A deepfake introduced by an outsider into a business negotiation could be fatal to the relationship between the firms involved.
- 11 The 'black box problem' will be an issue in — advanced general intelligence.
- 12 The human brain may not understand how — future AGI systems function – people talk about the danger that computers will destroy — mankind, but, again, this may just be — hype.

Reading 2

g e b c a

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